

SMALL-MEDIUM SUPPLIERS AND THE NEW CAR INDUSTRY

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Abstract

Small-medium firms represent more than 90% of Italian firms, 50% of Italian production and 2/3 of employment and they need support in innovation process especially in known technology. The smallmedium firm, in fact, operates chiefly in medium to low technology sectors, but cannot for this reason reject innovation. Suppliers are often too small to make the necessary investments in training, computer systems, research and development to make an effective partnership with final producers.

Within this scenario the behaviour of the small-medium car suppliers is quite different, vertical disintegration, reorganisation of the supply base and the development of buyersupplier relationships have undoubtedly changed the role of suppliers in the carmaker's strategies. This paper analyses the innovation patterns of 25 small-medium car suppliers of the district of Turin. All the firms were face-to-face interviewed

1. Introduction

This paper is part of a wider research of the technological needs of the small-medium Italian firms, promoted and funded by the Ministry of the University, Scientific and Technological Research and coordinated by the Centre of Studies of the Italian Manufacturers' Federation.

During the selection of the firms, significant relevance was assigned to car suppliers. One of the reasons was for the deep roots of this type of firm in the district of Turin. Moreover, we wanted to evaluate the product and process innovation processes of small-medium firms where they are conditioned by a large final buyer. The incidence of a big company on the innovative processes of small-medium firms tends to complete the suggestions and support of a technical nature, for the individuation of the best technological choices within a comprehensive strategic set-up which contemplates processes of outsourcing, productive globalisation agreements between firms etc (Gadde and Hakansson, 1994).

Three aspects will be investigated:

- although the sample is not significant, this has not excluded the possibility of testing the role of small-medium firms in the new automotive supply chain;
- secondly, some evaluations have been made about the product and process technological level, and the innovation capabilities expressed by the firms. The aim is to point out the sources of innovation, as well as the factors determining innovation: technology transfer, the role of sub-suppliers, the relationships with external research institutes and the obstacles to innovation;
- finally, the paper analyses the impact of the strategies adopted by the car manufacturers to support the product and process innovation processes of their small-medium suppliers.

2. The role of small car suppliers in the reorganisation of the supply base

In recent years car suppliers have been influenced by a profound and on-going reorganisational process (Lamming, 1993), which particularly involves small firms that were once used to working as suppliers of production capacity and are now ever more involved in decisional activities for the final product (Bonaccorsi, 1997).

The active involvement of suppliers in the car industry took place step by step: logistic integration, just in time and product development have been added to deverticalisation in production (Lamming, 1993).

At present, for American and European carmakers, the buyer-supplier relationship continues to be extremely tense due to the radical strategic changes made by final producers. In general, the Japanese model is progressively being introduced, where:

- internal production is less than 30% of the total value of the product. For the most part Japanese carmakers have maintained control of the production of the engines, the powertrain, the chassis and the body;
- the number of direct suppliers is limited to a few hundred, many of which are responsible for the assembly of modules of components. Using direct contact with primary suppliers, the Japanese tiering structure helps the control of sub-suppliers;
- long term contracts allow the planning of cost reduction and the stabilisation of profits;
- the components developed by suppliers are a large part of the total value of the project (up to 70%).

The only aspect not yet pursued by Western firms regards the financial control between suppliers and buyers through crossover share investments (keiretsu) or associative ties (kyoryokukai). In the United States and in Europe increasing competitiveness among assemblers have transformed growth strategies from the acquisition of suppliers to the acquisition of competitors, moving resources from vertical to horizontal integration (Calabrese, 1997). Purchasing tactics in the automotive sector may therefore be synthesised into three consequential strategic tendencies: marked vertical disintegration, the reorganisation of the supply chain and the development of the buyer-supplier relationship.

2.1 Vertical disintegration

Vertical disintegration has undoubtedly contributed to the growth in the role of suppliers in the final enterprise's strategies (Lamming, 1993).

However, the choice of outsourcing cannot simply be categorised as part of the hierarchy market system, where for the choice of turning to suppliers (buy), in the case of economies of scale or if coordination costs are modest (Williamson, 1975), there is the alternative of internal production (make). In car industry, outsourcing is not focused only on minor added value components, but interests specific production processes which call for increasingly complex technology in order to improve efficiency, optimise investments and processes, increase flexibility margins and lower the break-even point.

Moreover, rigidity in the use of the work force, diseconomies of size, growing specialisation for limited phases of the processes, the increasing complexity of the products, the tendency to eliminate warehouses, the propensity to reduce the incidence of fixed costs and investment rigidity, all foster vertical disintegration.

The suppliers involvement therefore represents a source of flexibility and permit carmakers to meet changes in demand (Wells and Rawlinson, 1994).

Thus design deverticalisation is added to production deverticalisation to identify a unique responsibility for each component. The data in table 1 relative to the process of vertical disintegration in Fiat Auto are remarkable. Common product development requires more co-operation. All the communication channels between the final producer and the suppliers have to be multiplied and intensified.

Table 1 - Vertical disintegration in Fiat Auto (%)

	1982	1987	1992	1996	1998
Production	50	52	65	70	70
Product development	30	30	45	59	70
Source: Fiat Auto					

2.2 Reorganisation of the supply base

In stable market conditions the final producer's advantage comes from increasing the number of suppliers that do not prove large technological differences; relations are standardised and the great number of suppliers encourages price competition. On the contrary, the identification of specific knowhow within each component concentrates the attention only on the suppliers able to guarantee high standard and continuity in quality.

The supplier evaluation mechanism traditionally based on price is integrated with other criteria: technological know-how, reliability and quality, consignment precision and the ability to develop new products. Productive capacity is no longer a sufficient requisite, design capability must also be implemented (Clark and Fujimoto, 1991). Optimum efficiency is not longer expressed in terms of productive processes, since a correctly design definition allows greater optimisation of the cost of the new component (Bonaccorsi and Lipparini, 1994).

In parallel the product is simplified, with a reduction in the number of product lines per model and the diffusion of modules. The sum of these factors causes an inevitable reduction in the number of direct suppliers, potentially few firms per product unit. In 1992 alone the suppliers of European and American producers ranged from the 700 at Fiat Auto to 2,000 at General Motors, while the number of Japanese suppliers was well below 200 (Toyota 196, Nissan 195, Honda 155) (Wells and Rawlinson, 1994). Currently the direct suppliers to Fiat Auto have been further reduced to 340 and those of General Motors to less than a thousand, with further concentration of purchases on the main suppliers. In fact 90% of the total supplies to Fiat Auto comes from 130 firms, and in the case of the last compact model as much as 80% of the supply value comes from only 64 firms. This has caused profound changes in the supply base.

- Firstly, a layered system of primary and secondary suppliers is set-up on the basis of the supplier capability to satisfy the new carmaker's needs. Many of the excluded firms from the primary level are downgraded to the role of sub-suppliers. This is not necessarily a negative situation for these firms. We shall see shortly how the sub-suppliers of our sample have registered on average the highest rate of turnover growth in the period 1992-96.
- Secondly, tier-one suppliers are classified on product complexity: suppliers of modules, of complex components, of single and standardised parts. Each typology requires a different purchasing approach. From researches carried out by Kamath and Liker (1994) we can see that among tier-one suppliers of Japanese carmakers only a dozen of these has a total partnership relationship; whereas the intensity of the linkage of the remaining suppliers diminishes proportionally with the minor importance of the supplies. According to

Kamath and Liker primary suppliers can be grouped in: partner, mature, immature and contractual. This is, perhaps, the most relevant and comprehensive taxonomy for car suppliers that are often generically identified by the term of components. In reality components stand for those suppliers of non-generic products designed exclusively to be incorporated into the final product. Closely linked to car industry many other firms operate. They produce dies and equipment, design and engineering studies, prototypes, etc., which can engage in similar supply relations with the carmaker.

Tiering simplifies the communications process in that final producers limit their contacts to the direct suppliers which co-ordinate the other tiers. Classification renders communication efficient in that it indicates the correct attitude to adopt with each suppliers.

2.3 Development of the buyer-supplier relationship

The change from contractual relationship to partnership induces the progressive integration of buyers and suppliers which becomes evident in the institution of specific co-ordination mechanisms (co-design, self-certification, self-qualification, just in time, etc.) and the widespread use of information technology (Lamming, 1993). In this way, intense cooperative activities are initiated between final producers and their suppliers which are embodied in the sharing of operative and financial advantages and in the formulation of specific and long-term links (Camuffo and Volpato, 1997).

However, the sum of these transformations could be ineffectual were they not accompanied by the research for cultural integration to encourage the overcoming of resistance and barriers to the development of these relations (Sandell, 1994). Above all, there is the need to speed up the unlearning of consolidated practises such as: short term view on single supply operation, contingency tactics, reluctance to abandon (buyer) and take on (supplier) specific know-how of the production process, reciprocal lack of trust, and so on. Secondly, partnership must be seen as a common path of reciprocal learning, leading to change and the overcoming of countless, inevitable incomprehensions and difficulties. In particular, it must be evident that the consequences of the assumption of specific choices do not only affect the firm internally but they involve the other partners as well. Just in time and co-design characterise the most important co-ordination mechanisms in production and process deverticalisation and wouldn't work if they were not self-regulated by delegation systems like self-certification and self-qualification.

In the first instance, the supplier guarantees the consignment of the components and certifies their conformity to predefined standards, in this way acceptance checks and quality control within the car manufacturer's plant are eliminated. In the second instance, the supplier guarantees that the new component conforms to all product specifications. By the use of self-qualification, checking and testing are delegated to the supplier who personally guarantees the product and process qualifications and the certification of the production equipment.

The buyer-supplier relationship is a path which may require a small supplier to participate in specific support programmes organised by the buyer. These are aimed at reducing the costs of non quality, encouraging the process of growth and reciprocal adaptation, explaining the final producer's organisational culture and focusing the supplier's attention on innovation potenciality. A key factor in this context regards the joint management of human resources through common training programmes and the transfer of the buyer's personnel to the supplier to compensate for outsourcing.

2.4 An empirical test for small-medium firms

In 1996, the 25 car suppliers analysed in this paper employed on average 120 employees and had an annual turnover of 16 million of Euros. According to the categories for employees adopted by the European Union, 4 firms must be considered small (less than 50 emp.), 16 small-medium (from 50 to 150 emp.) and 5 medium firms (from 150 to 250 emp.)

Analysis of the balance sheets shows a more than satisfactory financial situation. On average ROE is equal to 13.3, ROI is 8.4 and ROS 7.1. Export is 31.5% of turnover.

The statistical insignificance, together with the quantitative and territorial limits of the sample analysed in this study do not exclude, however, the possibility of carrying out an empirical test of the role of small-medium suppliers in the reorganisation of the car filiere. Firstly, the firms in the sample have amply benefited from the deverticalisation process in the car sector. In fact, from 1992 to 1996 turnover increases by +93% and employment by +33. There is a positive, but very weak, correlation between size and growth in turnover (0.23), a sign that even small businesses have been able to benefit amply from the deverticalisation process. Correlation is still weak but negative (-0.17) in the comparison of growth in turnover and the classification of firms according to product complexity. Sub-suppliers' turnover has increased on average by 121%, and that of mature suppliers by only 58%. As regards the hierarchy between direct and indirect suppliers it does not constitute rigid demarcation. In fact, within our sample 11 firms stated they were exclusively tier-one suppliers, 6 firms sub-suppliers and the remaining 8 both direct suppliers for the final car maker and other suppliers. In many cases the intermediate situation constitutes a trial period during which the car manufacturer makes a definitive decision about the supplier: whether to continue or interrupt the direct relationship.

Kamath and Liker's taxonomy, based on the importance of supply, seems more adaptable to the firms in our sample. The exclusively sub-supplier category remains unaltered (6 firms), while the remaining suppliers emphasise consolidated (4 firms) or immature relationships (15 firms). According to Kamath and Liker the characteristics of an immature supplier are: limited design responsibility, simple component characteristics, design specifics supplied by the buyer, minimal supplier influence, involvement only after style approval, average technological competence, and constantly checked self-certification and self-qualification. Obviously consolidated relations with suppliers imply greater responsibility in each of these characteristics. How it was expected there is a strong correlation between the buyer supplier relationship and size (+ 0.77).

The prevailing strategy adopted to respond to the deverticalisation process realised by the car manufacturers has been, although it seems a contradiction, the internal verticalisation of activities. In 60% of the firms interviewed it has been possible to note the introduction of new phases in the production cycle, both by means of the realisation of new internal investments, and by the acquisition of other firms. The verticalisation process may initially occur during the construction and design of dies, as well as later on in assembly, soldering, painting and surface treatments

The suppliers verticalisation process has mainly interested the immature car suppliers rather than the mature ones. In some ways it is a coherent solution, as this category of firms tries to supply the final manufacturer with a more complete product, thus increasing the complexity of the production cycle.

A necessary condition has undoubtedly been the increase in production volumes which has allowed the amortisation in the shorter term of investments and the reduction of the break-even point. Flexibility is the most referred motivation which push these firms to verticalise the production cycle. Car manufacturers to reduce to the minimum the supplier firms' response time consistently adopt just in time and simultaneous engineering. If the

external technological competence is easily attainable and the economic margins exist, verticalisation allows the suppliers to manage the complete control of the process more directly and to satisfy unexpected change in purchase request more quickly. Furthermore, the following advantages: cost reduction, operating costs control and quality improvement.

Minor importance is assigned to final market diversification, only a residual part of production is directed at other sectors which are essentially white goods. In 5 cases, 20% of the sample, production diversification strategies were found which called for the use of differentiated technological competence. In general, hot forming, plastic pressing, tube bending, etc. is added to cold forming.

The ever more strategic role of suppliers is additionally confirmed in the globalisation process carried out by the car makers. Their policy is that of preserving the uniformity and qualitative standards of the components used independently of the production location. Thus the principal suppliers are called on to collaborate closely in the realisation of the carmakers' global programmes, and to ensure the availability of the supplies required in the various production plants. Globalisation not only implicates the suppliers of modules and systems, but also sub-suppliers. The firms in the sample indicated a greater number of industrial initiatives abroad with respect to similar research carried out by the Chamber of Commerce in Turin (1997).

It is interesting to observe that some of these initiatives, especially those undertaken by the smaller Italian firms, were realised by joint-ventures or consortium between competitors. Three agreements of this nature were indicated comprising a total of seven firms of the sample. Larger firms, on the other hand, tend to realise agreements with local producers in order to exercise complete control over the activities. In both cases the investment follows a classic model: the suppliers follow the buyer in the realisation of large new plants throughout the world. Especially in the case of South America or Eastern Europe, the presence of other car manufacturers is an opportunity to increase the number of buyers.

Agreements of a productive-commercial nature are not only aimed abroad, the first such experiences were realised in South of Italy as well as in the district of Turin. Such agreements may have the objective of realising a joint production or merging the product development activities. In this way the consortium becomes the exclusive interlocutor with the carmaker. These agreements tend to improve the relationship and the communications channels with the final buyer.

3. Innovation in small-medium car suppliers

The innovation capabilities of small-medium car suppliers are strongly conditioned by the size and the technological characteristics of the product. Small-medium car suppliers have a tendency to operate in a context of incremental innovation. The analysis refers to a mature sector in which the innovation process proceeds over time along a logistic curve. For these firms innovation is often not a structured activity, innovation is infinitesimal, on a daily basis, and interests all aspects of the company: how a die is made, how the layout of the workshop is defined and the pieces are manipulated. Innovation is a continuous improvement of the production process, which at a certain point allows the generation of something new. Each employee contributes even minimally to improve market competitiveness of the firm.

Therefore, as far as our sample is concerned, high innovative capabilities could not have been hypothesised beforehand. Product innovation regards minimal changes for quality improvement, reduction of production costs and new market requests.

The considerations about process innovation differ to some extent in that periodically new equipment are introduced which determine a significant innovative leap and define new production standards. In the '70s the initial diffusion of numerically controlled machine tools was observed, in the '80s the introduction of flexible automation and robots, and now the principal progress could regard information technology and hydroforming. Currently technological evolution has reached a consolidation phase. For example, all the cold forming firms of the sample use transfer presses. The purchase of highly sophisticated numerical controls or the introduction of robots for various uses can readily be accomplished even by very small firms.

In some firms the presence of such superior know-how relative to production technology was observed, that machine specialisation or even the complete construction of these could be undertaken internally. Such a solution is followed in the case where there is a high level of accumulated knowledge or when the specific machinery needed cannot be found directly on the market. It is not by chance that the majority of patents deposited by the firms in the sample regard new process applications rather than new products.

Taking these concepts into consideration the sample can be classified according to CREST (Scientific and Technical Research Committee) taxonomy. Four groups are identified by CREST:

- Research Performer firms (RP), SMEs with dedicated R&D structures and medium-long term programmes. No firm of the sample can be included in this category;
- Technological Competent firms (TC), SMEs with some qualified employees in R&DE and a good propensity to face innovation process. 7 firms of the sample are part of this group;
- Minimum Capabilities Firms (MC), SMEs with at least one qualified employee in R&DE to support transferral technologies. 9 firms of the sample can be included in this category;
- Low Technology firms (LT), these firms show a limited propensity to change the existing situation. 9 firms of the sample are assigned in this category.

In the last section some of the principal strategic tendencies which have characterised the car filiere were described. On the basis of the questionnaire, other variables will be analysed in this section: the relationships with raw materials and machinery suppliers which encouraged innovation transfer, the presence of a product development department, investment in information technologies, the set-up of small R&D units, application for government grants and the introduction of agreements with external research institutes. Table 2 shows the absolute and relative frequencies over the total sample.

Table 2: Small-medium car suppliers and innovation

	<i>Number of firms</i>				<i>Percentage values</i>			
	TC	MC	LT	Total	TC	MC	LT	Total
Total	7	9	9	25	100	100	100	100
Mature supplier	3	1	0	4	42.9	11.1	0	16
Immature suppliers	4	6	5	15	57.1	66.7	55.6	60
Sub-suppliers	0	2	4	6	0	22.2	44.4	24
Globalisation	3	4	1	8	42.9	44.4	11.1	32

Diversification	4	1	0	5	57.1	11.1	0	20
Verticalisation	6	6	3	15	85.7	66.7	33.3	60
Advanced organisation	4	1	0	5	57.1	11.1	0	20
Group dependence	1	1	3	5	14.3	11.1	33.3	20
Joint-venture in R&DE	1	0	3	4	14.3	0	33.3	16
Joint-venture in production	4	4	3	11	57.1	44.4	33.3	44
Materials suppliers	4	5	1	10	57.1	55.6	11.1	40
Machinery suppliers	5	3	1	9	71.4	33.3	11.1	36
Product development department	7	8	3	18	100	88.9	33.3	72
Information technology	4	2	1	7	57.1	22.2	11.1	28
R&D laboratories	5	2	0	7	71.4	22.2	0	28
Government grants	6	7	4	17	85.7	77.8	44.4	68
External research	3	5	1	9	42.9	55.6	11.1	36
Source: Ceris-CNR								

For each CREST group can be observed that:

- Technological Competent: all these firms have an internal product development department that can operate in co-design with the final carmaker. The production cycle is verticalised in 85% of cases and the same percentage is registered for requests for state incentives. High values are also indicated for collaboration with machinery suppliers and the presence of R&D laboratories.
- Minimum Capabilities: most of the the principal characteristics are quite similar to those of the higher category. To these are added collaboration with suppliers of materials and external research bodies.
- Low Technology: the only distinctive elements is the request of state aids. Low frequency (33%) is registered by verticalisation, R&DE consortium, joint-ventures in production and to the presence of an internal product development department.

The analysis of single variables supplies ulterior comparisons. The most uniform strategic-organisational or innovative factors among the various groups are: joint-ventures in production, and the request for government grants. In these cases evident differences exist, but they cannot be deemed to be characteristic factors. The TC and MC SMEs are unified by the same propensity to globalisation, verticalisation of the production process, presence of an internal product development department, collaborative relationships with suppliers of materials and with external research bodies.

Furthermore, some distinctive aspects are highlighted:

- production diversification strategies is pursued exclusively by TC, as are the adoption of advanced forms of organisation, collaboration with machinery suppliers, the realisation of investments in information technology network and the set-up of R&D laboratories;
- dependence on industrial groups and the formation of joint-ventures for design activities are indicated prevalently by LT firms.

The fact that such factors are manifested at the extremes of the scale of qualitative criteria is not devoid of useful considerations. For example, the adoption of organisational forms different from the functional or paternalistic structure in TC and MC firms confirms that organisational innovation is fundamental as much as that of product or process.

The formation of consortium for the common set-up of a product development department among the LT firms indicates the recognition of a fundamental company activity which cannot be pursued singularly. In the same way the greater incidence of dependence on a group in the LT firms signals the risk that, especially if the holding company is foreign, the innovative process of the firm could be impoverished.

4. Buyer-supplier relationship in innovation

It is now widely acknowledged that co-operative relations with suppliers can be considered a means for final producers to scan the technological knowledge basis of related industries and to keep its progress under control. Although co-operative supply relations can be implemented for a variety of strategic and operational goals (Ellram, 1991; Monczka and Trent, 1991; Imrie and Morris, 1992), it is agreed that the improvement of the product development process and access to innovative technology are of paramount importance (Hakansson and Eriksson, 1993; Hoyte, Cooper, Jones, 1994; Mendez and Pearson, 1994; Morgan and Garnsey, 1994).

One of the supplier categories observed by Kamath and Liker is that of the immature supplier which was, however, recognised as having some unexpressed potential so as to avoid sub-supply relations. The development policies that buyers can offer their suppliers to encourage innovative processes of products and processes can be classified as indirect or direct depending on the level of involvement. Among the indirect actions are those proposals and information for the adoption of new technology, for the reduction of costs, for quality and logistics, for the management of sub-suppliers, to improve the final quality of the product. These initiatives have been so consolidated that in recent years they have been increased and made tangible in specific projects (for example Volkswagen's KVP, Fiat Auto's Guided growth plan, and Renault's Synergy 500). Among these initiatives the proposals for the adoption of new technology act without interposition in the innovative processes, the remainder initially interest operative activities and successively may encourage the introduction of new technology. Some direct actions are: training at the buyer's location, visits from technicians, personnel temporarily based at the supplier to improve the processes, and technical/financial aid for new investments.

Table 3 shows the percentage values for each carmaker support initiative to encourage innovation in suppliers.

Table 3: Support initiatives undertaken by car manufacturers to encourage innovation in suppliers (% of total firms)

	<i>Innovation capability</i>			<i>Total</i>
	TC	MC	LT	
<i>Direct Support</i>				
Training at buyer's headquarters	66%	50%	33%	52%
Technician's visits	100%	50%	33%	65%
Temporary collocation of buyer's personnel	33%	12%	0%	13%
Technical/financial aid for new investments	16%	12%	16%	17%
<i>Indirect Support</i>				
Suggestions for the adoption of new technology	83%	62%	16%	61%
Suggestions for cost reduction	83%	37%	16%	48%
Suggestions for improvement of quality and logistics	100%	62%	50%	74%
Suggestions for the management of sub-suppliers	50%	50%	16%	48%
Information about the finale quality of the product	83%	75%	50%	70%
<i>Average Supports</i>	6,2	4,1	2,3	4,5
Source: Ceris-CNR				

At present, the firms in the sample recognise that they have benefited from the buyer, and thus in particular from Fiat Auto, mainly from the indirect supports to the operations, as in suggestions for improvements to quality and logistics (74% of the sample) and information regarding the final quality of the product (70%). The instruments regarding technology which the firms interviewed declared of most benefit were suggestions for the adoption of new technology (61%) and visits from technicians sent to implement better procedures (65%).

On the whole the carmaker's support of his suppliers to encourage innovation can be considered as following the route of least involvement for the car manufacturers. Visits from technicians, judging by the firms in the sample, are limited to supervision of the production process and only rarely encourage the implementation of better procedures. Furthermore, there is strong non-homogeneity between the technicians which often come from commercial areas and not from technological-productive ones.

Training at the buyer's headquarters (52% of the sample) is a support activity that is considered essential but often the initiative originates from the suppliers and not the buyer, an important factor given that its cost cannot always be sustained by small-medium firms.

Little significance is given to initiatives with greater co-responsibility as for example technical/financial aid in the realisation of new investments (17%) and the temporary collocation of the buyer's personnel with the supplier (13% of cases).

On average the firms interviewed have benefited from 4,5 supports by the buyer. The distribution of the sample according to the innovation capability evidences some disparity.

Firstly there seems to be a positive correlation between innovation capability and support received: 6,2 different initiatives for the TC firms, 4,1 per for the MC firms, 2,3 for the LT firms. Unfortunately we cannot know if the innovative level expressed is the result of the final buyer's initiatives, or if, as it is more realistic to presume, the level of innovation capability is a discretionary factor in the concentration of the suppliers' development policies. The greater inclination towards this last consideration is in part confirmed by observing the distribution of the single innovation supports in the three groups of firms. Proposals regarding the quality of the final product and logistics are addressed in a more or less indistinct manner between the firms, while the initiatives which are more connected to technological innovation are highly concentrated within the firms with high innovation capability and, to a lesser extent, in the firms with medium innovation capability.

5. Conclusions

In this work the procurement policies of the car sector have been analysed over a sample of smallmedium suppliers. In particular, three consequential strategic trends have been observed: the marked vertical disintegration of the sector, the rationalisation of the supply base and the evolution of the buyer supplier relationship. Furthermore, the product and process innovation processes have been analysed along with technological competence and the initiatives undertaken by the carmaker to increase the culture of innovation in the small medium firms. Research has shown that the firms analysed, even the smallest ones, have amply benefited from the deverticalisation process in progress both in terms of turnover and employment. Hierarchical policies between direct and indirect suppliers have not yet defined rigid demarcation, whereas taxonomies based on the extrinsic importance of supply and on the relation between suppliers and carmakers are more explanatory. The strategy prevalently adopted to answer the process of deverticalisation effected by car manufactures has been the verticalisation of internal activities. Lesser relevance has been assigned to the diversification strategies of both the final market, and production specialisation.

A meaningful figure concerns the globalisation politics undertaken in collaboration with competitors. The agreements do not only concern the productive-commercial aspects, but also the constitution of common a product development department.

Product innovation, on the other hand, is minimal and mostly concerns changes needed to improve efficiency, quality, cost reduction and the customer satisfaction. In this context the development policies that the buyers could offer their suppliers to encourage the innovative processes of product and process can be separated into indirect and direct actions according to the degree of involvement. However, it may be expected that final producers' support to encourage innovation in suppliers, in general, has followed methods of least involvement for the car manufacturer and have been concentrated on the suppliers with the greatest innovation capabilities.

Finally, some evaluations have been made of the technological level of the product and process, and on the innovation capability expressed by the firms analysed. The main innovative undertaking of the firms has been focused on the process, in some firms the presence of superior knowledge about production technology has allowed the internal preparation of specialised machinery or even the complete construction of the same in economy.

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IMPACT OF RECEIVERSHIP COSTS ON THE OPTIMAL CAPITAL STRUCTURE FOR SMALL BUSINESSES

Ed Vos and Philippa Webber

Abstract

If the costs of bankruptcy are significant, then they will have an influence on a firm when it is determining its optimal capital structure. If anticipated bankruptcy costs are high, lower levels of debt can be anticipated. By studying all firms who were put into receivership in the Hamilton region of New Zealand between 1990 and 1996, this study shows that the direct costs of receivership are approximately 23.5% of receivership proceeds, but only 3.64% of the book assets of the 'healthy' company. Results of other bankruptcy studies are reviewed and help confirm this study's findings of a scale effect of direct bankruptcy costs as a percentage of the value of the firm at bankruptcy, but reject a scale effect between direct bankruptcy costs and the 'healthy' value of the firm.

Introduction

Nearly forty years ago Modigliani and Miller (1958) showed that in a perfect world the value of the firm is not a function of the capital structure of the firm. In their "correction" paper (1963) they show that when interest payments on debt are tax deductible (as they are in the real world) and debt is default free, the value of the firm is maximised when the level of debt financing is maximised. Since then researchers have examined why firms do not exhibit these optimal debt levels. Agency costs (Jensen, 1976), financial slack (Myers and Majluf, 1984), information asymmetry, personal taxes (Miller, 1966) and bankruptcy costs (Robichek and Myers, 1966) are all theories which can be used to explain the difference between tax maximising levels of debt and actual levels of debt. Researchers have also shown that small businesses have even smaller debt levels than that of their larger counterparts.

The purpose of this paper is to see if bankruptcy costs have an impact on the optimal capital structure of small businesses. Researchers have shown a scale effect of bankruptcy costs, which should mean that bankruptcy costs are more significant for small firms than larger ones. If bankruptcy costs are significant to small firms it could go some way to explaining why small firms have less debt than large firms.

The data used in this study comes from all firms who went into and completed receivership in the Hamilton region of New Zealand, between 1990 and 1996¹. The rate of failure, as defined as going into receivership, was very low for this time period: from a high of approximately 0.12% in 1990 to a low of 0.02% in 1994².

Background

Researchers such as Kraus and Litzenburger (1973), Scott (1976) Baxter (1967) and Kim (1978) developed optimal capital structure models which incorporated bankruptcy costs. These models show that the value of a firm is maximised by increasing the level of debt financing to a point where the marginal present value benefit of the tax shield equals the marginal present value of the costs of bankruptcy.

The actual cost of bankruptcy is difficult to determine. Bankruptcy costs include the direct or administrative costs, indirect costs, shortfall costs and tax credit losses. Haugen and Senbet (1978) argue that it is only the direct costs which are important when determining the capital structure of a firm. For this reason, and the relative ease in determining the direct costs of bankruptcy, a lot of research has been done in this area. This research can be divided into two groups: those that have looked at bankruptcies or receiverships, and ; those that have examined liquidations of firms.

Baxter (1967), Warner (1977), Ang, Chua and McConnell (1982) and Bradbury and Lloyd (1994) examined the direct costs of the bankruptcy process. The costs and firm sizes varied considerably. The largest firm sizes and lowest direct bankruptcy costs were in the Warner study (1977), the average firm size was \$50 million at the time of bankruptcy with a direct cost of bankruptcy of 5.3%³ of the market value of firm at the time of bankruptcy. The highest level of bankruptcy costs were 14.3% for the New Zealand small businesses of the Bradbury and Lloyd study.

Both Stanley and Girth (1971) and Robertson and Tress (1988) looked at the direct costs of liquidation's. The direct costs of liquidation were 31% and 38% respectively. Both groups showed a scale effect concluding that as the firm size increased so did the direct costs at a decreasing rate. This indicates substantial fixed costs and economies of scale in the bankruptcy/receivership/liquidation process. The direct costs for the firms in bankruptcy and receivership were lower than those that were in liquidation. A possible reason for this is in some cases firms go through the bankruptcy or receivership process before entering into liquidation. The value of these firms have already been decreased by the direct and indirect costs of bankruptcy and possibly by the sale of assets.

Sample source

A sample of 43 Hamilton small business receiverships were examined. These firms came from a list of receiverships compiled by a local Hamilton, New Zealand receiver. It included all receiverships performed by Hamilton receivers on Hamilton registered companies between 1990 to 1996⁴.

By law when a company goes into receivership the directors must submit a *Statement of Affairs* to the Companies Office. This gives the financial position of the firm at the time of receivership. It includes the estimated realisable value of assets, a list of creditors, including the level of indebtedness and each creditors priority. Unfortunately, only 21 of the 43 firms filed this statement.

The receiver must also file the *Receivers receipts and payments* upon cessation of their acting as receiver. This includes payments to the firm from debtors, from selling assets, GST refunds, and payments by the firm for administrative costs of the receivership, payment to the preferential creditors, to debenture holders and unsecured creditors.

Sample Outcomes

Table 1 gives an analysis of the outcomes of the receiverships.

Table 1 - Repayments to creditors

	<i>Number of firms</i>
Partly paid preferential creditors	2
Partly paid debenture holders	39
Fully paid debenture holders	2*
Partly paid unsecured creditors	0
Total	43

*In fact they more than repaid the debentureholder, this is because the figure in the Statement of Affairs is completed at the time the firm goes into receivership. During the receivership process the interest on the debt continues to accrue. This means that the total amount due to the creditors by the end of the receivership process is more than that stated in the Statement of Affairs.

Table 2 - Losses to the creditors (21 firm sub sample)

	<i>mean</i>	<i>median</i>
Preferential creditors	8%	0%
Debenture holders	53%	60%
Unsecured creditors	100%	100%
Total creditors	79%	82%

At the time the firms went into receivership the average age of 42 of the firms was 13 years with a median of 10 years, 71% (n = 30) were five years or older. This is at odds with the general idea that small firms die young. Research by William's (1982) showed that 69% of his sample went into bankruptcy by the age of 5 years and that of Hall and Young whose sample had an average life expectancy of 6.9 years.

Sample statistics

Table 3 shows the summary statistics and dollar distributions of the direct costs and receivership proceeds of the full sample and the estimated asset values, total debt, short term and long term debt of the sub sample of 21 firms.

Table 3 - Summary statistics of the sample firms (number of firms)

<i>\$\$(000)</i>	<i>Direct costs</i>	<i>Receivership proceeds</i>	<i>Estimated Asset Value</i>	<i>Listed debt</i>	<i>Short/t debt</i>	<i>Long/t debt</i>
0-20	15	1			1	1
20-40	14	2	1		2	
40-60	5	5	4			1
60-100	7	6	4		2	2
100-150	2	3	1	3	4	3
150-250		5	5	1	4	4
250-500		10	2	5	5	5
500-1,000		9	7	7	2	2
1 million +		2	5	5	1	3
minimum	4277	5221	24090	129725	6240	13357
maximum	145204	4990532	1049146	1638570	1304215	1484188
average	52647	415531	284762	677545	262667	414878
median	45583	208054	162694	549875	218642	245073
Total	43	43	21	21	21	21

Comparing the company's directors estimated asset values in column four with the receivership proceeds of the 21 firm sub sample (average receivership proceeds \$280,747 and a median of \$139,017) shows that the directors estimates tend to be slightly biased upwards, this is also found in the Robertson and Tress (1988) study. However, the number of under and over estimations of the assets value were almost half half indicating that, on the whole, directors do not intentionally overestimate the value of their assets.

Column five shows the listed debt for the 21 firm sub sample ranged from \$129,725 to \$1,638,570 with an average of \$677,545 and a median of \$549,875. Using a leverage ratio of 0.41:1 the implied healthy book assets of the firm can be estimated. This is important as firms determine their optimal capital structure when they are healthy. This leverage ratio is a combination of two studies of accounting statistics⁵ for healthy small businesses in the Waikato, New Zealand (Hamilton is the largest city in the Waikato region). The implied healthy book assets of the firm would range between \$316,402 to \$3,996,512, with an average of \$1,652,549 and a median of 1,341,159.

Column six and seven break listed debt into short term and long term debt. It shows that on average the sample has more long term debt, having on average 39% short term debt and 61% long term debt.

Direct Receivership Costs

The direct costs of receivership as a percentage of receivership proceeds and implied healthy book value were also calculated (Table 4).

Table 4 - Direct costs of receivership

	<i>mean</i>	<i>median</i>
As a percentage of receivership proceeds	23.5%	21.9%
As a percentage of implied healthy book assets*	3.64%	3.93%
*The direct costs of receivership as a percentage of receivership proceeds for the 21 firm sub sample averaged 27.3% and had a median of 24.7%.		

This shows that a significant proportion of the market value of the firm at the time of receivership is consumed by the direct costs of receivership. However, the direct costs of receivership are only a small percentage of the firms implied healthy book assets. The costs in relation the implied healthy book value is more important for the determination of an optimal capital structure, this is because firms decide on their structure when they are healthy, not when they are on the brink of receivership.

The scale effect

Previous research has found a scale effect between firm size and the level of direct costs of receivership (see Warner 1977, for example). As shown in table 5 a Spearman rank test was used to find the level of correlation between receivership costs and 3 measures of the firms size; receivership proceeds, estimated asset value and book assets. The relationship between book equity and receivership costs was also calculated. The table shows that the level of receivership costs is most related to the level of receivership proceeds. Both book assets and estimated asset value were correlated to a significant level, but much smaller at $\alpha = 0.2$. Surprisingly, there is a significant negative relationship between book equity and receivership costs. This indicates that the more equity the firm has the easier it is for the receiver to complete the receivership process.

Table 5 - Spearman rank-order correlation coefficient of total receivership costs with:

	r_s	Significance, α
Receivership proceeds	0.875717	0.0005
Book equity	-0.48	0.005
Estimated Asset value	0.359740	0.2
Listed debt	0.341558	0.2

To determine if there was a scale effect between the direct receivership costs (DRCs) and receivership proceeds, and the DRCs and the implied healthy book assets of the firm four regression equations were run. The relationships were tested using both a logarithmic and quadratic function regression. This would determine if the DRCs not only increase as the firm size increases (as shown in the Spearman rank) but if the costs increase at a decreasing rate. Direct costs of receivership was the explanatory dependant and firm size (using the receivership proceeds measure or book assets) were the explanatory variables.

The following models were tested:

$$\text{logarithmic } \log DC = a_0 + a_1 \log RP$$

where

DC = the dollar amount of the direct costs of receivership, and

RP = the receivership proceeds or the implied healthy book assets

$$\text{quadratic } AC = b_0 + b_1 RP + b_2 RP^2$$

If direct costs are a decreasing function of size then the expected coefficients of the logarithmic function regression are $a_0 \geq 0$ and $0 < a_1 < 1$. The hypothesised coefficients of the quadratic function are $b_0 \geq b_1 > 0$ and $b_2 < 0$.

Table 6 - Logarithmic results

	<i>Full sample, receivership proceeds and direct costs</i>	<i>Sub sample, book assets and direct costs</i>
Intercept (a0)	1.32 (4.02)	4.87 (1.21)
Slope(a1)	0.615 (10)	0.391 (1.37)
R sqr adj	70.2%	4.2%

Table 7 - Quadratic equation

	<i>Full sample, receivership proceeds and direct costs</i>	<i>Sub sample, book assets and direct costs</i>
Intercept (b ₀)	12742 (2.61)	-5515 (-0.21)
b ¹	0.142 (10.41)	0.0559 (1.72)
b ²	-0.03*10 ⁶ (-9.24)	-0.01*10 ⁶ (-1.22)
r sq adj	72.6%	19.7%

The results for the DRC in relationship to the receivership proceeds were as hypothesised: $a_1 = 1.32$ which is more than 0, $a_2 = 0.615$ which is between 0 and 1 and $b_0 = 12742$ is more than $b_1 = 0.142$ which is more than 0 and b_2 is less than 0. Therefore, it seems that the direct costs of receivership increase at a decreasing rate as the receivership proceeds increase.

The logarithmic function results were as hypothesised. However, the quadratic function results reject the hypothesis that the DRCs increase at a decreasing rate as the firm size (the implied healthy book assets) increases. The very low adjusted r squared variables of both equations show that the DRCs are poorly explained by the implied healthy book assets of the firm. The low spearman rank correlation coefficient between the implied healthy book assets and receivership costs also shows that the book assets of the firm do not adequately explain the DRCs.

The regression results indicate that the level of DRCs are determined by market value of the assets at the time of the receivership, not the firms size when it was healthy. Since the optimal capital structure of a firm is determined when the firm is healthy, and since there seems to be no clear and definite relationship between DRCs and the implied healthy book assets, it would be unwise to assume that the smaller the firm the more the DRCs will be. This would indicate that receivership costs, as with large firms, do not have a significant impact on the determination of a firms optimal capital structure.

Multi-study comparisons

By comparing a number of studies it is possible to get a broader picture of the role direct bankruptcy costs play in the determination of a firms optimal capital structure. Table 8 compares four direct bankruptcy cost studies.

Table 8 - Direct bankruptcy cost study comparisons

	This study	Bradbury and Lloyd	Ang, Chua & McConnel	Warner
Date	1997	1994	1982	1977
Sample size	43 NZ firm receiverships	27 NZ firm receiverships	86 US firm bankruptcies	11 US railroad bankruptcies
	(21 with information on listed debt)		1963-1979	1933-1955
Market value ^{a)}				

mean	415,531	1,072,386	108,771 ^{c)}	50,000,000
median	208,105	370,865	58,459	n/a
min	5221	5870	0	10,400,000
max	4,990,532	7,070,309	1,136,467	114,700,000
Book/healthy value ^{c)}				
mean	1,652,549	3,927,096	615,516	216,700,000
median	1,341,159	1,623,305	n/a	n/a
min	316,402	17,278	22,980	29,300,000
max	3,996,512	40,318,112	4,540,620	378,500,000
DRC				
mean	52,647	49,943	2,518	1,880,000
median	45,583	34,311	841	2,000,000
min	4,277	2,366	0	820,000
max	145,204	171,355	26,475	2,890,000
DRC as a % of market value	23.5 (mean)	14.6 (mean)	7.5 (mean)	5.3 (mean)
	21.9 (median)	8.1 (median)	1.7 (median)	
DRC as a % of healthy value	3.64 (mean)	4.4 (mean)	n/a	1.4 (mean)
	3.93 (median)	8.9 (median)		
Scale effect for DRC and market value	Yes	Yes	Yes	Yes
Duration in months	19 (mean)	42.6 (mean)	14 (mean)	150 (mean)
	13 (median)	33 (median)		156 (median)

a) This is determined as the receivership/ bankruptcy proceeds of the this study, Bradbury and Lloyd and Ang, Chua & McConnell studies and the market value of the securities of the Warner case.

b) Both the mean and median do not include the firms which had zero asset values, one third of the sample.

c) This is the estimated book value calculated by the this study, B & L and A,C,&M studies and the market value of the Warner study 5 years before they went into bankruptcy.

The size of the firms in the four studies were all noticeably different. The firms in the first three studies can be classed as small businesses, while the Warner firms can be classed as large firms. The book value or healthy value of the firms were all calculated slightly different. As previously mentioned this study used a leverage ratio estimated from two studies on the financial statements of small firms in the Waikato region. The Bradbury and Lloyd case used a leverage ratio from publications of the New Zealand Corporate Financial Statistics, which compiles the financial statements for listed and unlisted public firms in New Zealand, i.e. large firms. This is a flaw in their methodology as statistics from large firms cannot be used to proxy those of small firms (Vos 1992), their book value estimates are therefore doubtful. The A,C&M used a leverage ratio for firms with total assets between 250,000 and 3,000,000, as found by Troy(1978). As the firms in the Warner case were listed the market value of the firm five years before the bankruptcy is used to indicate the value of the firm when it was healthy.

By comparing the market value at the time of receivership with the healthy value of the firm, shows that, regardless of the size of the firm, approximately 75% of the value of the firm is lost in the process of going from a healthy to a bankrupt firm. This indicates that debenture holders do not discriminate against small businesses when deciding when to put a firm into receivership.

All four studies found a scale effect, showing that as the receivership proceeds increased so did the receivership costs, at a decreasing rate. However, when the studies are compared this scale effect is obvious only when the A,C&M study is ignored. This shows that in New Zealand at least there is scale effect between the receivership proceeds and the direct costs of receivership.

There is a small difference between the direct costs of receivership and the healthy firms value for the small New Zealand firms and the larger US railroads (Warner, (1977)). This could indicate a scale effect, however, when the Warner study is closely investigated it shows that the maximum direct costs of bankruptcy for a firm was 3.2% for a firm worth \$29.7 million, this percentage is almost the same as the average for this study, where the average book value of the firms assets was \$1,652,549. The B&L study also has higher direct costs of receivership as a percentage of book assets than this study, which has smaller firms. These findings indicate that there is no scale effect for the direct costs of bankruptcy as a percentage of the healthy value of the firm (book assets). They also show that the costs are small and relatively insignificant in the determination of the optimal capital structure for a firm.

Conclusion

The search to find a method of determining an optimal capital structure for firms has been going on for the past forty years. Firms, particularly small firms do not possess the 'optimal levels of debt' of the Modigliani and Miller 1963 correction paper.

The idea that the costs of bankruptcy may offset the tax advantage of debt is examined in this paper. The impact of direct bankruptcy costs on the determination of the optimal capital structure for small New Zealand businesses then was examined. These results were then compared with results from other studies to give a broader picture of the impact of bankruptcy costs on a firm optimal capital structure.

The results of this paper show that on average a significant 23.5% of the market value of the firm at the time of receivership was consumed by the direct costs of receivership. The important measure of the firms value is the implied healthy book assets or the value of the firm when it was healthy. This is because a decision as to the optimal capital structure of the firm is made when the firm is healthy. The direct costs of receivership to the value of the firm when it was healthy (implied healthy book assets) were not significant averaging 3.64%. This low cost of bankruptcy for a healthy firm is only slightly higher than the bankruptcy costs of Warner's firms when they were healthy. These results suggest that the direct costs of bankruptcy have little impact on the firms optimal capital structure decision.

The scale effect of the direct bankruptcy costs as a percentage of the market value of the firm at the time of bankruptcy (bankruptcy proceeds) was confirmed in all four studies. It was also supported when three of the studies were compared, which indicates that as the market size of the firm increases the percentage of the firm consumed by the direct costs of bankruptcy decreases.

Only this study tested the scale effect of the direct bankruptcy costs and the book assets of the firm. It was concluded that there is not enough evidence to support a scale effect. The comparison between the studies showed that there was no scale effect between the direct costs of bankruptcy and the value of the firm when it was healthy. The results of this study have shown that the direct costs of bankruptcy are too small to impact on a small firm's decision as to what its optimal capital structure will be. It also shows that there is no scale effect between the direct bankruptcy costs and the value of the firm when it is healthy, implying that the direct costs of bankruptcy are not the reason why small firms have less debt than their larger counterparts. Therefore, other factors must influence small businesses to have lower debt levels than larger firms. One of these factors could be the negative agency advantage of debt for small firms as found by Vos and Forlong (1997).

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¹ See sample data for more specifics

² In 1990 26 receiverships were performed by Hamilton receivers on companies registered with the Hamilton companies Office. In 1994 there were only 5. These figures were divided by the number of registered companies in the Hamilton Companies office, being 21,500.

³ The market value used was at the time of bankruptcy, when Warner looked at the value of the firm 5 years prior to the bankruptcy, the direct costs of bankruptcy were only 1.4%. The direct costs are even smaller if the likelihood of bankruptcy is also taken into account.

⁴ These 43 firms are therefore the majority of receiverships performed over this period in the Hamilton region. It is possible that if the list had included receiverships performed by non Hamilton receivers for Hamilton companies the figure would of been higher.

⁵ This leverage ratio was calculated from a study by Vos(1992) and Vos and Forlong(1997) which gave leverage ratios of small businesses in the Waikato region of New Zealand.

NEO-LIBERALISM AND THE PROMOTION OF BUSINESS SUPPORT CENTRES IN THE TRANSITION ECONOMIES: PROGRESS WITH THE WRONG MODEL?

Milford Bateman

Abstract

Institutional support for small enterprise development in the transition economies of Central and Eastern Europe has emerged in the shape of networks of Business Support Centres (BSCs). These were established by both host governments (central and local) and the international assistance agencies, though overwhelmingly financed by the latter. The design model for the BSCs was very much informed by the neo-liberal approach to business development. As a consequence, the BSC networks were almost universally structured to be private sectorled, financially self-sustaining, to involve minimal central and local government engagement, and to focus only upon support initiatives which were consonant with short run market imperatives. With several years of experience behind them, and as the most expensive intervention by the international assistance agencies, the BSC networks are now under scrutiny. Unfortunately, and paralleling the experience in the macro-economy, the neo-liberal discourse has shaped the micro-economic reform agenda in a way which has contributed little to substantive economic recovery and SME development. The BSC networks are almost everywhere failing to deliver upon the heady promises of their local and international protagonists, and the small enterprise sector has therefore also failed to deliver the much-needed economic development boost which might have been expected. Most damaging for the longer term prospects of the SME sector has been the effective side-lining of the local state. In spite of the local state having played a key developmental role in previous historical episodes of post-chaos/post-conflict restructuring and small enterprise development, it has received very little attention in Eastern Europe, and its existing and potential local economic development capacity and institutions have effectively been allowed to atrophy. A new small enterprise discourse is called for which explicitly recognises that an active local state has a pivotal role to play in small enterprise development in the transition economies.

1. Introduction

The relative absence of SMEs was widely seen as a key factor which lay behind the poor performance of the majority of the planned economies in Central and Eastern Europe. Accordingly, once the decisive break with communism was made in 1989, SME development became established one of the principal economic reform objectives to be adopted by postcommunist governments throughout the region. The new governments responded by removing the main administrative barriers to entry, making quick work of the privatisation of the small scale state enterprise sector, and undertaking at least some of the most basic reforms to the financial sector. Active labour market policies, which were a feature of nearly all the transition economies, were also specifically directed to support the unemployed into small enterprises, in some cases becoming quite an important feature. Crucially, western governments, particularly the US government through its USAID arm, and the bilaterals and multilateral development agencies, were quick to offer financial and technical support for SME development. The European Union was probably the most important provider of assistance through its Phare programmes of support in the early reforming countries of Central and Eastern Europe, and later on through the Tacis programme in the former Soviet Union. A new bank, the European Bank for Reconstruction and Development (EBRD), was also established to support private sector development.

The apparent result of this burst of official interest in small enterprises, but particularly the rapid liberalisation of the business environment in which small enterprises had to operate, was that the sector experienced a major boom. Indeed, after nearly ten years of the transition, the small enterprise sector is now widely pictured as one of the great success stories in the move to the market economy. In all of the transition economies the SME, sector now accounts for a very sizeable share of employment, output, tax contributions, consumer goods supply and wealth creation. Small enterprises have facilitated the introduction of a wide range of new technologies, managerial techniques and innovations (Dyker, 1997), and they have led to a new entrepreneurial business culture taking root in Eastern European society, which is beginning to affect both small and large enterprises alike (Bateman, 1997a). Moreover, given the decline of the social welfare systems in many post-Communist economies, small enterprises, particularly of the informal and micro-enterprise variety, have clearly played a vital role as a source of income, or sometimes as a second income, for many who would otherwise be experiencing real poverty (ILO, 1995; MCS, 1996).

However, in spite of there having been unquestionable progress over the last decade or so, on closer inspection a significant part of the progress in the small enterprise sector is actually shallow and illusory. For a start, it is clear that in each of the transition economies the official statistics vastly overstate the numbers of, and level of employment in, the small enterprise sector (UNIDO, 1997).¹ But what is of perhaps most concern here is the fact that most active small enterprises are engaged in petty services, simple retailing and importing activities, with the corollary that very few are seriously engaged in manufacturing activity involving meaningful capital investment and new technology. There has been a pronounced "too small too weak - too isolated" trajectory reflected in most parts of Eastern Europe (Berg and Sachs, 1992; Arzeni, 1996; Hardy and Rainnie, 1996; Smith, 1996; Bateman, 1997b). This is one of the most problematic aspects of the small enterprise development trajectory in Central and Eastern Europe, because such a structure is unlikely to generate the most important positive development externalities in the local economy (spin-off employment, R&D, exports, innovation, high technical skills, networking, subcontracting, etc). Almost without exception, the most successful models of small enterprise development place a very high premium on small enterprises as sophisticated manufacturers, industrial service providers and industrial subcontractors (see Pyke and Sengenberger, 1992; Cooke and Morgan, 1998).

One factor behind essentially shallow nature of the progress made so far relates to the structure and extent of the policy support which came on stream from 1989 onwards. The most widespread forms of international support for small enterprise development in the transition economies has been the promotion and financing of Business Support Centres (BSCs).² Given that they are an important form of support for small enterprise development in the western European economies and elsewhere, it was quite natural that they would be heavily promoted in Central and Eastern Europe. The establishment of BSC networks was one of the main small enterprise-related tasks undertaken by most of the first postCommunist central and local governments, with the overwhelming majority financed by the international community (Levitsky, 1996; UNIDO, 1997). The BSC networks were meant to provide basic business advice and support for new start enterprises, potential entrepreneurs among the unemployed, small growing enterprises, and in many cases SMEs in minority communities. There was also a regional bias to the BSC network, with many BSCs being deliberately established in regions already experiencing, or expecting to experience, particularly high unemployment. More successful and larger SMEs were expected to tap into the growing indigenous private sector consultancy and business support services companies, incoming consultancies from the western economies, or larger-scale international assistance programmes. After between four to eight years of operation in Central and Eastern Europe, we can now begin to look at the experience of the BSC networks in practice. We start first with some consideration of the ideology which underpinned the design of the BSC networks. We then go on to consider some of the main operational problems which have emerged in the BSC networks to date. We then conclude with some of the possible policy alternatives to the BSC network which could have been promoted in Eastern Europe in the early 1990s.

2. The neo-liberal origins of the BSC networks.

Neo-liberalism was the most influential political project in the 1980s and early 1990s, in both the developing economies (Colclough and Manor, 1991) and in the majority of the western democracies (Amin and Tomaney, 1995). It was most closely associated in the developed economies with the radical free market policies of Margaret Thatcher in the UK and Ronald Reagan in the USA. By the late 1980s, however, the neo-liberal project was becoming increasingly associated in practice with unfavourable economic performance, industrial decline, rising social exclusion, substantial and pervasive unemployment, worsening labour conditions and massive employee insecurity, and substantial and growing inequalities in wealth and power (Liepitz, 1992; Peck and Tickell, 1994; Amin and Tomaney, 1995).

Notwithstanding this poor progress (particularly so in the country most associated with neo-liberalism's genesis - the UK), the neo-liberal agenda was highly influential in informing the transition strategies adopted by governments in Central and Eastern Europe from 1989 onwards (Marquand, 1990; Sachs, 1990; Gowan, 1995). For ideological and political reasons the US and British governments were keen to promote their own economic model, and so most of their advice and assistance was tied to this requirement. The IMF and World Bank also made it clear that they were only interested in financing the reform process so long as it accorded to their ideas of an <<appropriate>> (i.e., the neo-liberal) model of restructuring (Amsden *et al*, 1994).³ It helped, too, that many of the most senior government personnel in Central and Eastern Europe (for example Klaus in the Czech Republic and Balcerowicz in Poland) were committed neo-liberals who could be relied upon to promote the radical free market agenda in all its guises (see Klaus, 1992; Balcerowicz, 1995).

Not surprisingly, the range of micro-economic interventions, including SME development policy, came under the influence of the neo-liberal agenda. At its root, the neo-liberal approach to SME development essentially conflates slavish respect for the activities and freedoms of the individual entrepreneur (best exemplified by the "enterprise culture" promoted by the Thatcher administration in the UK), with the wholesale acceptance of Chicago school textbook models of perfect competition and their explicit hostility towards all forms of collective endeavour and state intervention. However, owing to the especially deleterious market conditions prevailing in early post-Communist Central and Eastern Europe, a number of explicit policy interventions were considered necessary, including the establishment of networks of BSCs. Neo-liberal imperatives were nevertheless applied to the design of the BSCs, and so they were structured to be driven by the private sector, to operate according to standard commercial criteria and full-cost recovery, to involve minimal central and local government participation, and to focus solely upon support initiatives which were consonant with short run market imperatives.

The practical inspiration for the BSC networks was derived from the United Kingdom's experience with Local Enterprise Agencies (LEAs) and Training and Enterprise Councils (TECS).⁴ The UK LEAs were established from the late 1970s onwards as private-sector led, non-profit business support bodies which were initially intended to rely on funding from local private industry (especially, in the early 1980s, from those large companies making largescale redundancies), central government, and support from local government (sometimes in kind, such as redundant property) (Morison, 1987). They were joined in 1988 by over 80 TECs, which were to operate as the main providers of a range of business support services which had previously been undertaken by local offices of central government ministries (Curran and Blackburn, 1994). A key initial feature was that the central government channelled funds earmarked for small business support through the TECs, which in turn invited the LEAs to bid for the financial package to undertake a particular range of support services for local small enterprises. In effect, the responsibility for the delivery of business support services was being "privatised" (Moore and Pierre, 1988) and a "quasi-market" for their delivery was being constructed (see Bartlett, 1995). Later on, as central government spending began to sharply contract under the Thatcher government, and when it also became clear that private industry was quite unwilling to provide the requisite financial base, the concept of user-charges was increasingly

promoted to underpin the revenue structure. This development was to have been expected, however, since the principles of fullcost recovery were making significant inroads into virtually all traditional local government services in the UK (e.g., transport, education, waste removal, health care, leisure services). These traditionally public sector services were being recast as private sector operations in order to extend the market into every possible corner of everyday life (Le Grand and Bartlett, 1993). Accordingly, the new entrepreneurship initiatives introduced in the early 1990s, such as Business Links, were at the start very strongly exhorted to become self-financing (Devins, 1996).

It is important to emphasise that the UK's LEA model of business support services arose not so much because it was seen as the best way to create a comprehensive, responsive and sustainable SME support network: rather, it reflected the then Thatcher administration's overarching ideological mission to reduce the role and cost of the state. This strategic goal was considered at least partly attainable through the promotion of private sector solutions to every possible social, economic, business, educational and cultural requirement in everyday life. It was to be operationalised through a "commitment to privatisation, deregulation and the introduction of commercial criteria into any residual state activities" (Jessop et al, 1988, p 171). In terms of SME development specifically, the goal was to be achieved by devolving as much responsibility for SME promotion as possible down to various self-help bodies in the community, which were to be financed locally and driven by the private sector. Where central government support was still required for the time being - the aim was that local self-help would replace government spending in the long run - it should be allocated on the basis of competition between individual units operating within the SME support infrastructure. The model was given great additional political stimulus at the time because it was seen as being able to stimulate petty entrepreneurship within the community of unemployed - a key facet of the radical free market experiment being conducted by the Thatcher administration - while simultaneously marginalising Labour party controlled local authorities ideologically hostile to the Thatcher central government and its neo-liberal political programme (Thomas, 1988).

3. The BSCs in practice

It was thus reasonably clear what the international assistance community initially considered to be the preferred model for a BSC in Eastern Europe.⁵ The drive to use the LEA model in this context was initially provided by the European Union's Phare officials and advisors, most of whom had very little knowledge of Eastern Europe and of the sometimes quite sophisticated SME development initiatives introduced by the local state under late Communism. But the LEA model was also strongly promoted by the consultancy companies contracted by Phare, in the Hungarian case the consultancy arm of UKbased Coopers and Lybrand.⁶ Having significant experience in implementing and evaluating the LEA/TEC bodies in the UK, and with neo-liberal cardinal principles dominating the approach to business development in the UK, the LEA model was a pretty natural choice to make when entering the new market of post-Communist Eastern Europe.⁷ The LEA network was established under the auspices of the Hungarian Foundation for Enterprise Promotion (HFEP), an independent body established by the Hungarian government, business associations and the banks. The HFEP was specifically intended by both the government and the European Commission to be the implementing agency for the Phare programme. It had to link upwards with government and responsible Ministries, and downwards to the LEA network. The LEAs themselves were established as non-profit-making bodies, with representatives of local government and other interested private and public sector bodies constituting a managing board. As NGOs, the LEAs were effectively placed alongside the myriad of other NGOs competing for donor assistance, though it was planned that central and local government would financially assist them when Phare funding came to an end.

With some changes and adaptations to take into account local conditions, essentially this model became the conventional wisdom for most of Central and Eastern Europe. As in Hungary, many local governments quickly realised the way the wind was blowing and so helped to establish the sort of BSC which they knew would attract international financial support, at the same time hoping that some of this financial support would find its way into their activities. In some cases this model encountered some local resistance, but the international assistance agencies generally go their own way. The Hungarian government initially indicated some preference for international assistance to be channelled through the Chambers of Small and Medium Sized Enterprises linked to the Hungarian Chamber of Commerce (UNCTAD, 1993). In Slovakia, small enterprise support was initially channelled through the regional development departments located within district government offices, but heavy pressure from western consultants to build private sector institutions was ultimately successful (Smith, 1997). In Slovenia, the EU's Phare programme officials refused to support the Slovenian government's plans for a comprehensive network of state-led local SME support institutions, arguing instead for their own ideas for private sector-led institutions (Phare, 1996).

What have been the consequences of this neo-liberal inspired business support services model so far? We would argue that there are six key problematic issues at present.

- First, it is clear that as the international funding comes to an end the BSC networks in almost all Central and Eastern Europe countries are deteriorating rapidly, and in many cases are near to collapse. In some cases individual and groups of BSCs have actually ceased operations just before, or just after, the international funding ran out (Court of Auditors, 1998). The main reason for this situation is that there has been a persistent shortfall of financial support for the BSC networks from the host governments, both central and local, which was meant to take over after international financial support ceased. Although many central governments have been reluctant to help because they were short of cash, it is clear that those governments which have most resisted offering financial support are also those which most fully bought into the neo-liberal idea that the "invisible hand" was all that was needed for entrepreneurship to flourish. Local governments have generally tried to be more supportive, but they resist offering anything more than token support to an institutional structure which they rightly perceive to have been deliberately designed to reduce their role and scope for local economic intervention, and which was very clearly meant to be driven by the private sector right from the start. And, as very much in the UK (Hindle, 1996), relying on corporate largesse to finance such services has proved to be particularly difficult.
- Second, as a result of the deficit of central and local government support and absence of private sector sponsorship, a major effort is now underway to hurriedly transform the BSCs into straight-forward commercial bodies capable of competing for fee-paying work with their counterparts in the private sector. The US government's Small Business Development Centres in Hungary and Poland, where both the central and local governments were originally expected to provide longer term finance, were very rapidly converted over to becoming revenue-generating bodies (Pricer and Blackman, 1995). The EU's Phare supported BSCs are all becoming very heavily involved in commercial revenue generating activities, very often with large enterprises, incoming multi-nationals, and with many of the multi-laterals themselves working as consultants and researchers. UNIDO/UNDP sponsored BSCs have also restructured their operations in favour of seeking out any fee-paying business prospects (UNIDO, 1998). Many EU Phare BSCs have opportunistically restructured themselves into Regional Development Agencies in order to tap into the flow of EU funds expected from the pre-structural funding cash associated with EU accession.⁸ In fact, BSC staff everywhere are now increasingly and routinely encouraged to spend a large proportion of their time touting for virtually any sort of fee-paying business activity on offer.⁹ This trend is compounded by the fact that the often comparatively very high salaries within the BSCs are increasingly underpinned by the fee-income generated by the BSC, which quite naturally means there is an incentive to seek out the most lucrative clients in order to further hike up salaries. Thus, those BSCs which are set to survive into the future are

doing so by becoming extremely commercial and indistinguishable from conventional private sector consultancies, and the BSCs are now, essentially, mainly concerned with their own profitability and survival.¹⁰ The result is that the majority of very small enterprises, new starts and the unemployed, which were essentially meant to be the focus of the entire BSC network, are increasingly being squeezed out of the client frame. Worse, this increased commercialisation of the BSC is having a marked "crowding out" effect on those counterpart private sector companies competing in the same market to offer consultancy and support services to better established and/or larger firms and incoming multinationals. This clearly reduces the extent of additionality in business support services provision being generated by the BSCs.

- Third, the all-engrossing search for the most profitable business opportunities means that the BSCs are inevitably neglecting the vital wider local economic development externalities arising from SME development activities. Strategic interventions at the local level which offer little immediate financial return to the BSC, but which will benefit the local community considerably in the long run, are simply not being undertaken. This was initially the case, for example, with the promotion of industrial subcontracting (Bateman, 1997b).¹¹ This is especially ironic in view of the fact that a major criticism of the Communist planners was that they failed to understand the subtleties and nuances of longer run, sustainable economic development strategies.
- Fourth, there has been a significant opportunity cost to the current BSC network structure in the shape of the <<dumbing down>> of local government. By channelling virtually all international financial support for SME development into the BSC networks, the traditional economic departments located within most local governments in Eastern Europe have effectively been allowed to atrophy. In many localities there has been no more than a token "stake-holder" involvement in SME development by the local government. In some cases, BSCs have been encouraged to resist any "interference" from the local government (though not their financial support), even though many local governments were early on the main driving force behind the establishment of "their" local BSC. On the other hand, some local governments are starting to contract out to the BSCs for the generation of their local SME policy, which makes it dangerously dependent upon the BSC's advice. Overall, this side-lining of local government capacity has taken place even though there was very much evidence to indicate that many local governments in the transition economies had sometimes very positive and quite long experience in promoting small enterprises (see, for example, Bateman, 1987, 1993; Petrin *et al*, 1988; PPI/CIPE, 1993; Coulson, 1995; Hanspach and Vajdova, 1996). It thus seems most likely that a variety of local government economic departments could have used a much greater share of the international financial resources devoted to SME development to good effect, or at least no less competently, honestly and efficiently than was expected of the BSCs at that time.¹² Increasingly, because of the perceived poor performance of the BSCs and/or their gradual re-positioning as fully private sector entities, many central and local governments are now becoming resigned to the need to have to set up "their own" BSC networks from scratch.
- Fifth, even when there remains the possibility to continue to offer financial support from central and local government funds to support the BSC networks and their original work with smaller enterprises, the costs of so-doing are increasingly edging up towards the local opportunity cost, represented by the fees paid by their most financially well endowed clients. Most probably, as demonstrated in the UK's privatisation experience (Ramanadham, 1988), the long term cost of ensuring that the BSCs undertake their designated support activities will rise at least to the level of the possible in-house equivalent (i.e., where such services are provided directly by local government), and in many cases it could go higher than that. Thus, one of the much-mooted advantages of the adopted private sector-led structure for the BSC networks, lower overall running costs, may not be in evidence over the longer run.
- Finally, the stridently commercial culture which has been consistently promoted in the BSC networks has, as elsewhere, undermined any growth of a sense of public duty. BSC staff effectively have the freedom to push to maximise their own individual financial position, and very many blatantly use this freedom. For sure, salaries are comparatively higher in the BSCs in order to attract the <<right people>>, but some BSCs

have pushed to further privatise their activities *via* an employee or management buy-out, or through being sold off to a related commercial organisation.¹³ Of course, if short term personal enrichment is not precluded by a variety of sanctions, and is anyway strongly encouraged by western advisors and the international agencies themselves,¹⁴ then this is not at all an unexpected development.

It is disappointing to find that, contrary to the largely sanguine official statements about the "good health" of the BSC networks in Central and Eastern Europe, on closer examination their operations actually look decidedly problematic. If, as seems likely, the BSC networks are eventually fully privatised over the next few years as a result of the international financial assistance drying up and the lack of any offsetting government support, then the loss of public investment will be substantial. Apart from the huge financial costs involved in establishing the BSC networks, there is also the tragic loss of time and opportunity involved if the current BSCs no longer do what they were designed to do, and completely new BSCs must now be established from scratch to develop the vitally important SME sector.¹⁵ Further, one must also assign a cost to the relative under-development of other private sector business consultancies which were not in receipt of the huge subsidy element involved in establishing what has emerged to become a very powerful competitor. Given these very tangible (and, unfortunately, largely predictable) limitations of the neo-liberal inspired BSC model used throughout Central and Eastern Europe, the question now arises, Was there any alternative to hand in the early 1990s? We briefly consider this question in this final section.

4. What were the alternatives?

At first sight the experiences of post-World War Two Japan, Germany and Italy, of the East Asian "tiger" economies since the 1960s (especially Taiwan), and of China since 1979, should have been extremely useful to policy-makers in Eastern Europe. Uniquely, these earlier historical episodes also involved a major historical discontinuity, system change, huge cultural shift and the need for reconstruction and development from a very low base of economic activity.

Moreover, careful analysis of these examples reveals a very successful policy model for SME development (for a fuller discussion of these issues, see Bateman, 1999) Based around the institution building activities, support and cajoling of local and regional government, notably in Italy (see Weiss, 1988), a wide range of BSC-type and other institutions were established, operated and financed. Sometimes this was with the support of central government and the local private sector, but more often simply using the additional financial resources generated by local enterprise development and collected locally via an extensively de-centralised taxation system (e.g., in China. See Oi, 1992; Nee and Su, 1998). In addition, comprehensive local and regional strategic planning was a feature of many of these successful development episodes, a feature which allowed for the co-ordination of scarce reconstruction and development resources and the exploitation of local and regional comparative advantages. Regional governments were also quick to realise that affordable finance was a desperately required item, so they fought hard to establish regional state-owned banks which could ring-fence funds for SMEs, such as in northern Italy in the case of the *Mediocredito Centrale* (Peluffo and Giacche, 1997). There was also an important element of fairness in much of the local economic development work promoted by local and regional governments, again particularly in northern Italy. This was based around the notion of a local "social contract", involving flexibly employed labour alongside a fair disbursement of the costs and benefits of local economic success (Trigilia, 1989). In addition, by engendering trust and encouraging many varied forms of social engagement in the locality, a social contract has the effect of underpinning the institutional foundations of civic society, which in turn is increasingly seen as pivotal factor in creating the most propitious local environment for economic development (see North, 1990; Putnam, 1993).

In total, these broadly local and regional government-inspired policies, led to an immediate, continuous, equitable, and wide-ranging contribution to reconstruction, SME development and living standards (Friedman, 1988; Nishiguchi, 1994; Kim *et al.*, 1995; MITI, 1995; Kodama, 1995; Kitayama, 1995; Whittaker, 1997; Pyke *et al.*, 1990; Pyke, 1992; Heidenreich and Krauss, 1998; Schmitz, 1992; Meyanathan, 1994; Quian and Roland, 1994; Rana, 1995; Lail, 1996; Rowen et al, 1998; Henderson, 1998; Bateman and Tan, 1998, Nee and Su, 1998; Bateman, 1999). There remain some who are unconvinced of the current potential of these policy interventions, and argue that there are now much stricter limits to the extent to which regional and local economies can aspire to operate autonomously of global competition and increasingly mobile multinational capital (Cowling and Sugden, 1987; Williams *et al.*, 1987; Amin and Robins, 1990). But it would seem to be widely accepted that there is in fact significant scope for local and regional governments to make a meaningful contribution to the economic well-being of a locality and its population. Local and regional economies have an endogenous growth potential which can be explored and exploited by local and regional governments and related bodies, and thereby a more - though not necessarily the most - equitable, efficient and sustainable local industrial structure is an attainable outcome (see Piore and Sabel, 1984; Zeitlin, 1989; Hirst and Zeitlin, 1992; Pyke and Sengenberger, 1992; Pyke, 1994). Notwithstanding problems of replicability and cultural and geographic specificity (see, for example, the discussion in Schmitz and Musyck, 1994), there is a very strong argument that these post chaos/post conflict experiences could, and should, have provided the starting point for the policy framework for SME development in post-Communist Central and Eastern Europe.

Overall, however, these particular historical episodes played a comparatively minor role in informing Eastern European governments of the SME policy interventions on offer. The main reason was that, as we have seen, the economic development success in these countries was achieved very much because of a set of policy interventions which were anathema to the neo-liberal agenda. In the 1980s, resistance to the concept of state intervention was deeply ingrained in many of the government assistance departments, consultancies and major international agencies. Many of the most respected international establishments and individuals misunderstood,¹⁶ overlooked,¹⁷ or deliberately obfuscated, the very positive role of the state in several of the most important post chaos/post conflict development episodes. One well-publicised example of obfuscation was the World Bank's dogged defence of the neo-liberal orthodoxy which it presented in the so-called "Miracle report" (World Bank, 1993). This was a response to calls by the Japanese government and others to explore more fully the reasons for the stunning industrial development success of the East Asian "miracle" economies, but the World Bank's deliberations ended up side-stepping, mislabelling as "market-conforming", or simply "white-washing" nearly all the key state interventions which stood foursquare behind East Asian success (see Amsden, 1994, Singh, 1995). This episode contributed in no small way to the fact that East Asian type state intervention policies with regard to SMEs remained both conceptually invalid and financially impractical in the eyes of many reforming governments in Eastern Europe (i.e., the World Bank would not have supported such policies).

5. Conclusion

The BSC networks in Eastern Europe, the most expensive and highly visible SME policy intervention undertaken so far, are in real trouble. Most BSCs are moving to survive by *de facto* or *de jure* conversion into private sector consultancies, with consequently few and declining links to the SME sector, and increasingly little immediate concern for the wider local economy. It is thus very much a moot point whether a high degree of commercialisation (a proxy for the neo-liberal agenda) should indeed be encouraged as "good practice" in Eastern Europe (see Gibson, 1997). Sustainability has not been ensured by having local governments as "stakeholders" on the BSC Management Boards. As UNIDO (1997, Vol 1, p20) was forced to report, "Merely having representatives of "stakeholder" agencies on the board of local or national enterprise development institutions does not solve this problem *and indeed may exacerbate it*" (my italics). Meanwhile, the channelling of financial support overwhelmingly into the independent BSC networks - particularly that from the international community - has left local governments

universally ill-equipped to confront the enormous challenges which face their deteriorating communities, and they certainly cannot adequately discharge the increased economic development responsibilities which have been foisted upon them by central government.

The neo-liberal SME policy discourse was heavily promoted at the start of the transition by the international assistance agencies and their advisors, and it was subsequently taken on board by most Eastern European governments. Overall, however, our core argument is that this radical free market ideological imprint has led to the establishment of BRS networks which can be typified as extremely weak, poorly-functioning, excessively-commercial, wantonly short-termist, financially unsustainable and, thus, as having very little impact in the local community. Tragically for Eastern Europe, this poor experience is essentially a repeat of that experienced by the UK's LEA/TEC networks which, as we noted above, to a large extent served as the model upon which the BSC networks in Eastern Europe were established (for the UK's extremely problematic experience see, for example, Peck and Emmerich, 1993 and Peck and Jones, 1995). One may also, indeed, see worrying signs that the Eastern European BSCs were also at least partly meant to be local institutions designed to induce a locally de-regulated, flexible, workfare regime - that is, they were meant to be part of a local institutional structure designed to underpin local neo-liberalism. For sure, their lack of real power, strategic and operational scope, concrete funding and other forms of support meant that most BSCs have had little ability to do anything other than simply encourage as many people as possible to become self-employed at whatever rewards the market offers.

In the light of the above Eastern European experience, and with more of an eye to the previous successful episodes of local state-led reconstruction and SME development, at the very least the role of the local state in SME development needs to be re-assessed and ideological objections to it assuming a more strategic and developmental role in SME development cast aside. Our cursory glance at previous post conflict/post chaos historical episodes indicated that an enormous amount of success was forthcoming through a concerted and <<hands-on>> approach to small enterprise development. Many of the most successful local and regional governments clearly developed what Weiss (1998) has termed in the macroeconomic context a <<transformative capacity>>. In SME policy terms this meant wellfunded regional and local government SME development programmes *inter alia* actively involved in the direct promotion of technology transfer, the stimulation of inter-enterprise networks, supporting mechanisms for local capital accumulation, providing affordable business accommodation, introducing co-ordinated training programmes, and providing direct and affordable financial assistance to key industrial SME sectors. We would argue that it is in developing a <<transformative capacity>> within the local state where a real engine for SME development can be found, and where future policy interventions in Eastern Europe urgently need to be re-directed.

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¹To illustrate, consider Hungary in a little more detail. A large number of registered businesses are nonoperational; most surveys in Hungary putting the figure at between 40% to 50% of the total of registered small enterprises (HFEP, 1996). Most businesses are sole proprietorships; only 28% of active businesses in 1996 had one or more employees (Futo, 1997). Many businesses are simply "second jobs"; just over 45% of sole proprietors in 1995 were undertaking business alongside a full time position or as a pensioner (HFEP, 1996). Finally, many small businesses are actually tax avoidance measures taken by individuals with the connivance of the larger firms which now "subcontract" to them (Futo, 1997).

² The name of these support institutions differs between country - local enterprise agency, business advisory and support centre, etc - but they are essentially the same thing.

³ It required several years before the World Bank would finally, and reluctantly, admit that there were obvious East Asian-inspired alternatives to the neo-liberal approach as development policy (see World Bank, 1997; also Amsden, 1994, for a discussion of the World Bank's resistance to change). However, by then, of course, the reform and policy trajectory was well underway in Central and Eastern Europe and, one might argue (see, for example, Andor and Summers, 1998) many of the most fundamental mistakes had already been made.

⁴ LECs (Local Enterprise Companies) in Scotland.

⁵ The quasi-market aspects of the LEA model have also found many adherents in LDCs.

⁶ Now merged with Price Waterhouse, to become PricewaterhouseCoopers.

⁷ Most of the UK consultancy companies active in Central and Eastern Europe after 1989 had also been very active in implementing TEC/LEA projects in the UK in the 1980s (see Hindle, 1996).

⁸ While some BSCs may well have certain skills and experiences to offer in terms of implementing regional development initiatives, their motivation to do so is overwhelmingly financial.

⁹ An indication of the lack of solutions on offer was given by a USAID representative who suggested that their small business centres should consider selling UNICEF cards as a way of raising money to keep going (Pressley, 1995, p 48).

¹⁰ A very interesting illustration of this comes from the county of Szaboics-Szatmar-Bereg in Eastern Hungary, where an LEA was established in 1990. As early as 1991 Attwater (1992) could report that the LEA's managers were getting very heavily involved in entrepreneurial activities in order to maximise their own performance-related incomes. By 1998, upwards of 70% of its income now comes from its own profit-making schemes. It is most interesting to note that in the context of a <<sustainability crisis>> in the Hungarian LEA network brought about by the final withdrawal of EU funding and the lack of government support, this particular BSC has recently been recommended as the model for the other Hungarian BSCs to emulate.

¹¹ Some central governments have recognised this as a serious omission. The Hungarian government, for example, has channelled support to the LEAs to work on subcontracting promotion (Hungarian Foundation for Enterprise Promotion, Annual Report, 1997).

¹² One should also note that a very great many of the staff in the BSCs were originally employed in local government, many in an economic development capacity.

¹³ In a number of cases, entire networks of agencies have confidentially approached the major international consultancy groups enquiring about the possibility of becoming part of their operations.

¹⁴ This was, for example, one of the elements of "good practice" highlighted in the major survey of donor experience summarised by Gibson (1997).

¹⁵ This is already starting to happen. For example, in Latvia where the initially EU-Phare funded BSCs have been cut adrift of government support and support is being directed to newly-established <<field offices>> within the municipalities.

¹⁶ For example, as pointed out by Chang (1995:388), for a long time Milton Friedman saw in East Asia the apotheosis of laissez-faire economics.

¹⁷ Leszek Balcerowicz, the architect of Poland's "shock therapy" programme and a strong neo-liberal proponent accepted the link between a strong SME sector and overall economic success in Germany, Italy and Taiwan, and thought that SMEs should thus be supported in transition economies. However, he made no mention of the enormous extent of local and regional state intervention which underpinned this success, preferring to see macroeconomic stabilisation and liberalisation as sufficient preconditions in themselves (Balcerowicz, 1995, p 246).

A MODEL OF THE DIFFUSION OF TECHNOLOGY INTO SME'S

Thomas Brychan

Abstract

The paper considers technology diffusion and develops a model at the level of the SME. Technology diffusion in the form of new or improved technology, the transmission of knowledge or technical expertise is investigated. This involves spillovers through formal and informal networks enabling learning by interacting and an absorptive capacity to assimilate new technology developed elsewhere. A model of technology diffusion is developed including external sources, channels of technology transfer, and mechanisms involved in the transfer of technology into the innovative SME. The model is related not only to "best practice" but also to cases where "low" activity can be improved. Implications for policy relevant to technology and entrepreneurship arising from the model are also investigated and conclusions are drawn.

1. Introduction

It is evident that Governments today regard technology diffusion as an important route to increased competitiveness, especially diffusion into Small and Medium-sized Enterprises (SMEs) (La Rovere, 1998) with advantages of flexibility, dynamism and responsiveness. However, SMEs have disadvantages related to the lack of technological and financial resources which can lead not only to problems in their ability to source technology but also in their capability to absorb it into their organisation and diffuse it into their industrial sector (Jones-Evans, 1998).

The objectives of the paper are threefold: first, to investigate technology diffusion in the form of new or improved technology through formal and informal networks enabling learning by interacting; second, to develop a model of technology diffusion including external sources, channels of technology transfer, and mechanisms involved in the transfer of technology into the innovative SME; and third, to relate the model to "best practice" and to note situations where "low activity" can be improved. Finally, the implications for policy relevant to technology and entrepreneurship arising from the model of technology diffusion are investigated and conclusions drawn.

Since there is a time dimension involved in the study of the diffusion of technology into SMEs, similar to other investigations of innovation, theories based on these studies will tend to lag behind the "best" current practices. All models of technology diffusion, including refined models such as the Bass Norton model, are a simplification of reality (Islam, Meade, 1997) and, therefore, have a measured influence upon policy. One theoretical model that has informed policies is the Centre Periphery Model (Schon, 1971) which rests on three basic assumptions:

- i) the technology to be diffused exists prior to its diffusion,
- ii) technology diffusion takes place from the source outwards to SMEs, and
- iii) the support of technology diffusion involves incentives, provision of resources and training.

By applying the Centre-Periphery Model to SME Technology Transfer Network Theory it is possible to construct what can be described as the "Hub and spoke" or "Star" network. This is a simple construct that can be used as a building block for more intricate networks. Diffusion will take place from the source of the technology through channels by a "diffuser", using a transfer mechanism, to the SME. The effectiveness of the system will depend upon the resources available to the external source to enable the transfer, the efficiency of the diffuser and the mechanism involved, and the ability of the SME to acquire technology. The scope of the system will vary directly with the level of technology and the flow of information.

2. Technology Diffusion

When a new technique has been adopted the speed at which other SMEs adopt may differ widely. This leads to what can be called the rate of diffusion (imitation). The rate of diffusion will be faster, the greater the improvement over existing technology and, the lower the cost of the technology in general (Roy, Cross, 1975). Using the definition of Bradley, et al, (Bradley, McErlean, Kirke, 1995) technology diffusion can be defined as the spread of a new technique from one SME to another ('interfirm diffusion') (Stoneman and Karshenas, 1993). The two principal types of technology diffusion are "disembodied" diffusion (the transmission of knowledge and technical expertise) and "embodied" diffusion (the introduction into production processes of machinery, equipment and components incorporating new technology) (Papaconstantinou, Sakurai, Wyckoff, 1995). Research spillovers are the means by which new knowledge or technology developed by one firm become potentially available to others and the absorptive capacity of the receiving firms will determine the extent to which the technology is incorporated.

The time pattern of adoption and the speed at which it takes place are distinct happenings. The exploration time period when implementing an innovation can provide imitators with a "window of opportunity" to proliferate (Jayanthi, 1998). Empirical studies suggest that the adoption of a new technology follows a bell-shaped, or normal, distribution curve (Norris, Vaizey, 1973). By plotting cumulatively this shows the number of SMEs who have adopted a new technology in any given year, and the distribution will give an 'S'-shaped curve. (It was Gabriel Tarde who in the Laws of Imitations, 1903, proposed that adoptions plotted against time assume a normal distribution, or if plotted cumulatively assume the 'S'-shaped curve.) (Baker, 1976) An 'S'-shaped distribution, not necessarily derived from a normal distribution, shows the spread of most new technology. There are two general reasons for the occurrence of this distribution.

The diffusion process for SMEs is a learning process.

SMEs who are potential users have to become aware of the technology and then to attempt to evaluate it. Consequently they may use the technology on a trial basis. The learning process takes place at this stage. Information about the technology has to be disseminated, and as it is adopted by other SMEs, or by the SME on an experimental basis the information becomes more reliable.

The importance of accumulated knowledge and expertise is an important factor determining whether firms are likely to adopt new technology or to act as sources of innovation (Gurisatti, Soli, Tattara, 1997). 'Bugs' will be overcome, which will in turn reduce the risk of adopting the technology. The concept of the individual SME learning curve can be extended to a network group of SMEs where experience with a new technology increases as each successive SME adopts the new technology. As a result, the distribution of SMEs adopting a technology might be expected to yield a normal curve.

An interaction effect occurs for SMEs.

When only a small number of SMEs have adopted a technology, there are a small number of diffusers who can generate information on the technology and from whom the technological idea can spread. Diffusion rates at this point are low. When the number of SMEs using the technology increases the "information base" broadens and because there is still a considerable number of SMEs who have not adopted the new technology the rate of diffusion increases. When there is a large proportion of SMEs using the technology the number of potential SMEs still remaining becomes small. The remaining SMEs will be resistant to change and there will be a slow down in the cumulative number of SMEs using the new technology. This will yield an 'S'-shaped curve. The first formal study of diffusion was the spread of hybrid corn (Grilliches, 1960). The adoption rate in different states in the USA was studied and it was found that there were significant differences between states in the rate of hybrid corn adoption. Logistic growth curves were fitted by Grilliches to his data and the parameters found from the curves for the different states showed wide variations.

Another formal study of the rate of diffusion was carried out by Mansfield who studied the rate of diffusion of twelve innovations in four industries - coal, iron and steel, brewing and rail (Mansfield, 1961, 1968). Although small firms were not included in the analysis, for medium-sized and large firms in most cases, the spread of innovations over time approximated the 'S'-shaped curve. According to Mansfield the spread of innovations is best described by a logistic curve.

Despite the shape of the curve for technology diffusion appearing 'S'-shaped, there will be differences in the speed at which technology is diffused and the length of the diffusion process. Both within and between industries there will be considerable variations in the rate of the diffusion of technology between SMEs.

Important factors which appear to affect the rate of diffusion (speed at which a new technology is accepted) are the characteristics of the SME and the characteristics of the technology itself. Early work on the categories of adopters found that further to adoption following a normal distribution curve the distribution could be used to show the categories of adopters (Rogers, 1962). Table 1 shows the categories of adopters with the majority of adopters lying between the mean and the mean minus/plus the standard deviation on the normal distribution curve.

Table 1 - The Categories of Adopters

<i>Categories</i>	Innovators	Early Adopters	Early Majority	Late Majority	Laggards
<i>Number of Adopters</i>	2.5%	13.5%	34%	34%	16%
	$x - 2\sigma$	$x - \sigma$	x	$x + \sigma$	
	<i>Years</i>				

The categories of adopters can be described as follows:

- *Innovative SMEs* are those who want to explore new technologies. They will have relationships with other SMEs in their network, and with suppliers and customers.
- *Early adopters* will be SMEs who will adopt new technology if it is to their advantage. Since they will act as 'opinion leaders' their influence will be greater than innovative SMEs.
- The *early majority* will be intentional while the *late majority* will be sceptical and will adopt when the technology has diffused.
- Last, the *laggards* will be so late adopting a new technology that it will have been superseded.

The categories of adopters shows that SMEs which adopt an innovation independently are innovators (Tassopoulos, Papachroni, 1998). Early research studies aimed at defining the characteristics of adopters found that early adopters relied to a greater extent on impersonal sources of information from wider and more sources (Rogers, 1962). They used sources in close contact with the origin of new ideas including technical journals. SMEs that are early adopters will tend to be "technically progressive" and will be close to the best that can be achieved in the practice of applying technology (Carter, Williams, 1957). On this assumption a progressive SME will take a wide range of authoritative technical journals, will have a variety of contacts with sources of technology including similar SMEs, and will assess ideas from these sources. It is expected that communication within the SME will be well organised and co-ordinated and there will be a willingness to share knowledge with other SMEs in its network. A progressive SME will set its standards by reference to best practice in other SMEs.

The speed of diffusion will also be faster the greater the awareness of SMEs to the advantages of adopting a new technology. The process of communication will be important here as well as the ability of SMEs to assess the merits of the technological advance. An SME is more likely to adopt a new technology as it diffuses due to being under increasing competitive pressure to do so, through the technology becoming more attractive, and as a result of information about the technology being broadcast from an increasing base (Green, Morphet, 1975).

3. Technology Transfer Networks

Technology transfer networks are of particular importance to SMEs with little in-house resources and experience to explore the potential of new technologies. SMEs usually lack awareness to the value of technology transfer, are diffident to enabling services, and therefore rely on co-operation with others. Two basic mechanisms available to SMEs are technology exchange (technology passed from one SME to another) and technology exploitation (technology transferred to an SME from an external source).

Technology transfer networks enable SMEs to reach a common understanding regarding new technologies quickly. Important aspects of SME technology transfer networks are the type and size of the network. Whereas, small networks appear more efficient, since communications are easy and network dynamics controllable, large networks benefit from a greater pool of resources. There are four principal types of networks. The "star" network has already been reported. A "nodal linkage" network involves SMEs on an equal footing and is not suitable for SMEs with different levels of experience. "Ad hoc" or "informal" networks are those without a formal structure where SMEs intimately know each other concentrating communication where required. These tend to be mature networks, but are not well suited for heterogeneous groupings, or those with little commonality between SMEs. "Regional" networks are the most complex type consisting of multi-tiered structures linking local networks. These are suitable for heterogeneous SMEs. The descriptions of these four types of network are exemplars in their purist form. Networks adapt to changing internal and external factors and evolve from one (centre periphery) to another (multi-tiered). Although co operation with other technology transfer networks provides the possibility of accessing a wider contact base it carries with it some competitive risk.

4. A Model of Technology Diffusion

A model of the diffusion of technology into SMEs can be described as innovation (supply) from the source of technology (origins) and diffusion (demand) to the SME (destination). The model can be expressed concisely in algebraic form:

Origins $i = 1, 2, \dots, m$
 Destinations $j = 1, 2, \dots, n$
 Supply at each origin a_i
 Demand at each destination b_j
 Constraint: supply = demand $\sum a_i = \sum b_j$

In order to find a solution we must specify the variable x_{ij} as the unit(s) of technology transferred from origin i to destination j over time t .

All supply $\sum_j x_{ij} = a_i \quad j = 1, 2 \dots n$
 All demand $\sum_i x_{ij} = b_j \quad i = 1, 2 \dots m$

The diffusion of technology D can be expressed:

$$D = \left[\sum_{i=1}^m + \sum_{j=1}^n \right] x_{ij} \quad i = 1, 2, \dots, m \quad \text{and} \quad j = 1, 2 \dots n$$

The rate of diffusion of a new technology to SMEs can be likened to waves of adoption involving distinct time packages. This is illustrated in Table 2.

Table 2 - The Rate of Diffusion

	Innovators	Imitators			
<i>Waves of adoption</i>	1 st Wave	2 nd Wave	3 rd Wave	4 th Wave	5 th Wave
<i>Categories</i>	Innovators	Early Adopters	Early Majority	Late Majority	Laggards
<i>Number of Adopters</i>	2.5%	13.5%	34%	34%	16%
<i>Time periods</i>	Period 1	Period 2	Period 3	Period 4	Period 5
<i>Diffusion for each period</i>	$\left[\sum_{i=1}^m x_{ij} \right]_1$	$\left[\sum_{j=1}^n x_{ij} \right]_2$	$\left[\sum_{j=1}^n x_{ij} \right]_3$	$\left[\sum_{j=1}^n x_{ij} \right]_4$	$\left[\sum_{j=1}^n x_{ij} \right]_5$

The rate of diffusion (R) can be calculated according to time (t) (number of years) as follows:

$$R = \left[\sum_{i=1}^m + \sum_{j=1}^n \right] x_{ij} / t \quad i = 1, 2, \dots, m \quad \text{and} \quad j = 1, 2 \dots n$$

This equation is a temporal model of technology diffusion which measures the speeds of diffusion (or rates of technology transfer) (Bradley, McErlean, Kirke, 1995).

A hypothetical example of the first and second waves of diffusion involving sources of technology and SMEs is illustrated in Figure 2--omitted.

The example illustrates that technology transfer is an active process whereby technology is carried across the border of two or more social entities (the external source and the SME), and technology transfer channels are the link between the entities (in which various technology transfer mechanisms are activated) (Autio, Laamanen, 1995). A technology transfer mechanism is defined as any specific form of interaction between entities during which technology is transferred (Autio, Laamanen, 1995). The ability to establish external linkages is of critical importance to SMEs and a critical mass of SME users will spread the usage and acceptance of the technology (Jain, 1997). The success or uptake of technology depends on how successful the performed community of (implied or ideal) users match the characteristics of actual users (Woolgar, Vaux, Gomes, Ezingard, Grieve, 1998). Success can be achieved by "configuring the user". Further to this Malecki has stated that "as new technology and products are learned, acquired, evaluated, and improved upon, a firm or region comes to know about best-practice technology ..." (Malecki, 1991, p.122). Laranja calls these "cumulative processes of learning" (Laranja, 1994, p. 173).

5. "Best practice"

Technology transfer networks are one of the best forums for SMEs to learn from each other, to exchange experiences, and to diffuse technology. The typical areas where the benefits of "best practice" can be found are technology transfer skills (determining an SME's needs by auditing and drawing-up agreements and contracts), technological expertise and know-how (including standards and regulatory issues), service provision (assembling the provision of services), and management and organisation (public relations) (Commission of the European Communities, 1998).

Networks are usually segmented by geographical region, industry sector or by technology and they can work with a mixed sector-technology focus. The danger with specialisation is that it carries the disadvantage that eventually the potential market will be exhausted. It is possible to overcome this by anticipating and looking for opportunities in complementary technology areas.

"Best practice" procedures for the diffusion of technology within networks usually include minimum standards for the SMEs, external funding apportionment, expected performance, and confidentiality. Procedures will usually become less formal over time due to ideal size attainment and growth realisation. Good practice for the successful operation of a network is the realisation by SMEs that it is not only an alliance of enterprises but also a partnership of entrepreneurs. (Entrepreneurs will act as technological gatekeepers and will have an important role to play in the operation of networks.) (Thomas, 1999) This needs to be reflected in network communications and good relationships between the SMEs will form the basis of good practice for the operation of the network.

Success in the diffusion of technology within networks is often the result of SMEs following "best practice" and this usually involves performance management. This is not easy to attain since the process of technology transfer can be long and without success, the results of the network are difficult to define and there may be discrepancies between the SMEs. "Low" activity may arise due to conflicts in a network. When these are efficiently managed and resolved they provide opportunities for the SMEs to broaden their experience and widen their understanding of other SMEs' views. When they are not conflict may lead to "low" activity. Conflict management and identification will form part of the "best practice" of successful technology diffusion. Typical examples of "low" activity are misunderstanding between SMEs, different objectives and motives and under-performance of an SME.

6. Implications for Policy

The implications for policy of a model of the diffusion of technology into SMEs, and the technology processes involved, necessitates the need to formulate technology transfer related action. This includes raising SMEs' awareness of the potential of technology transfer to help solve problems and the existence of networks to provide practical support. Once SMEs comprehend the possible benefits of technology transfer they will need more help to realise the benefits. Two further types of action to achieve this are specific support provided to individual SMEs (assistance during the establishment of network relationships) and technology transfer support to SMEs in general (to foster technological knowledge and establish network links from external sources such as universities and research providers for the dissemination of know-how into SMEs).

Coupled to the three forms of policy action described above the three main types of external sources involved in the diffusion of technology to SMEs are public and non-profit organisations (regional and national development organisations (RDOs/NDOs), regional technology advice centres (RTACS) and chambers of commerce), private consultants (technology brokers, management consultants, patent attorneys), and Research and Technology Organisations (RTOs) (contract research firms, science parks and technology centres). Technology transfer networks may comprise all three types although homogeneous networks are usually easier to form and develop. Amongst the three types public bodies are best placed to undertake policy programmes, private companies concentrate on providing focused assistance and RTOs provide technology knowledge and know-how. For SMEs involved in technology transfer networks key mechanisms include information transfer (newsletters and databases), technology transfer (R&D audits), skills transfer (training) and specialist support (financial guidance). Value for money of the mechanisms will be a key policy measure. There will need to be care that changes in policy will not make an SME withdraw from technology transfer activities and that policy reacts to difficult situations by providing SMEs with incentives.

7. Conclusions

Although the variables involved in the model appear to be the most important influences on technology diffusion into SMEs there will also be a multiplicity of influences that accelerate or alleviate the rate of diffusion. This spectrum of influences on diffusion rates broadens when considering technology transfer among the various different SMEs in multi-tiered networks. An extension of the hypothetical example of diffusion (Figure 2--omitted) is the diffusion of technology into SMEs through multi-tiered networks (Figure 3--omitted). In these SMEs' sociological forces will have an important role to play. The rate of adoption of a new technology will be faster if it is compatible with the previous experience and present normative values of SMEs. Other influences on the speed of diffusion include the complexity of the new technology and random influences.

The model illustrates that the successful diffusion of a new technology involves considerably more than technical competence. Many complementary factors will be prominent and an SME may be retarded in its acquisition of technology by other SMEs who are slow to adopt. 'Laggards' can have a deleterious effect on the diffusion of technology by other SMEs. The rapid diffusion of a technology will be facilitated by a willingness of SMEs to make adjustments.

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ENTREPRENEURIAL EXPANSIONS PLANS: AN EMPIRICAL INVESTIGATION OF INFRASTRUCTURE PREDICTORS

David Pistrui, Jianwen Liao and Harold P. Welsch

Abstract

Entrepreneurship, and the development of new business continues to be the forefront of socioeconomic development in virtually all economies today. Despite evidence of increasing research into entrepreneurial growth, the current research is limited by the fact that most studies define entrepreneurial growth as an unidimensional construct and operationalize it as "realized" growth relying on accounting-related measures. Consequently, this paper has two objectives: 1) to develop a series of accurate and comprehensive entrepreneurial growth measures; and 2) test a series of hypotheses regarding precursors of growth intentions. More specifically, to what extent, infrastructure factors affect entrepreneurial growth intention. The two research questions were examined using the Entrepreneurial Profile Questionnaire (EPQ) in the context of Romania. Results from factor analysis reveal refined patterns of entrepreneurial growth, including resource aggregation, market expansion and technological improvement. The relationships between infrastructure and entrepreneurial growth were tested using a multiple regression model. Overall, it was posited that infrastructure is positively related to entrepreneurial growth. However, in most of the cases, the opposite proved to be true. These findings suggest that the Romanian entrepreneurs would pursue expansion plans in spite of the obstacles thrown into their path. Perhaps they have already developed strategies about overcoming those obstacles and in that process have developed the strength, ingenuity and confidence to grow the new business ventures. Perhaps the many years that Romanians were confronted with numerous political and economical obstacles have prepared them to be much more flexible and adaptive. These counter-intuitive findings reflect on the hardiness and perseverance of the Romanian entrepreneurs. *Keywords:* Entrepreneurial Growth, Infrastructure, entrepreneurial expansion,

1. Introduction

Entrepreneurship and small businesses have been designated as the "engines of growth" not only by the job creating phenomenon in the United States (Birch, 1987) but also in developing and privatizing economies across the globe. Governments and policy makers have become keenly aware of the economic development benefits that are derived from the establishment and growth of entrepreneurial endeavors.

In recent years, enlightened public policy strategists have chosen entrepreneurship as the vehicle to grow their national economies and improve their citizens' quality of life. One socialistic/centrally planned economy after another has folded their tents and adopted a free enterprise system.

The collapse of the former Soviet Bloc combined with an increasingly globalized economy has allowed the entrepreneurial driven small business to become a dynamic impetus of economic growth and progress. Small business growth is emerging as a global phenomenon. New ventures are forming at unparalleled rates, and the spirit that infuses them is reshaping economies around the world (Byrne 1993).

Carland, Hoy, Boulton and Carland (1984) suggested that planned growth is an important method of differentiating entrepreneurs from small business owners. Their approach may actually provide a map through the maze, helping to uncover the essence of entrepreneurship. From their perspective, planned growth is often seen as the variable which distinguishes small business owners from "real entrepreneurs." Presently there is a general lack of understanding of how entrepreneurial growth intentions and expansion plans evolve and take shape. No comprehensive theoretical models exist to help explain the processes or probe the influences associated with planned growth intentions.

Surprisingly little theoretical, quantitative, and rigorous literature focuses on decisions of entrepreneurs to develop their firms (Ward 1993). One of the fundamental problems at hand is how entrepreneurial growth is defined. It is not necessarily limited to historical measures of sales, number of personal and profitability. Growth intentions and enterprise expansion can also supplement historical theories with new conceptual approaches. Entrepreneurial aspirations, willingness, intentions, motives and expansion plans can be put forth to complement existing theories which describe small business growth.

Dunkelberg and Cooper (1982) have also argued that growth intention in and of itself, represents an important entrepreneurial characteristic. Other researchers have found entrepreneurial growth intention to be a key determinant of small firm growth. Birch (1987) argued that attitude rather than sector or location determines growth and success. Brown (1995) suggested that entrepreneurial growth intention had a positive impact on small firm growth. While Fox (1996) pointed out that many entrepreneurs believe that growth is as much a matter of attitude as it is of economic aggregates, little evidence exists supporting either argument.

Given entrepreneurs as the "engineers" of the engine of growth, the field calls for studies investigating their behavior and examining how the growth process operates. In essence, the process starts with a vision, a plan and an intention to undertake expansion initiatives in their entrepreneurial endeavor. In fact, Carland et al. (1984) have distinguished "real entrepreneurs" who have greater expansion plans and initiatives from small business owners who are satisfied with either the status quo or lower growth rates. It is the rapidly growing "gazelles" (Birch, 1987) which actually provide the majority of economic growth and the creation of most of the new jobs.

Visions must be transformed into intentions, which in turn are the precursor of behavior. Therefore as researchers it behooves us to establish and measure accurate growth intentions and identify predictors which enhance or detract from these expansion initiatives. Thus this paper has two objectives: 1) to identify a series of accurate and comprehensive growth intention measures; and 2) test a series of hypotheses regarding precursors of growth intentions. More specifically, how the infrastructure factors affect entrepreneurial growth intention.

The area of growth intentions promises to be a rich mine of economic behavior since it captures the essence of entrepreneurship. Very little research has been completed in this arena since economists have regarded the precursors of economic growth too behavioral and ill defined for their econometric models. If a preliminary model based on infrastructure relationships can be developed, more elaborate predictors can be added to help explain this economic phenomenon.

2. Literature Review

2.1 Different Streams of Research in Entrepreneurial Growth

Organization scholars have increasingly recognized the importance of the research of new venture (Eisenhardt & Shoonhoven, 1990). Indeed, entrepreneurial growth has been seen as a valuable source of administrative and technological innovation, job creation (Birley, 1986) and the competitive disciplining of industries (Scherer, 1984).

However, a coherent theory of entrepreneurial growth is lacking (Ardishrioloi, et al, 1998), despite a series of micro (behavioral) and macro (strategic) perspectives.

There are several streams of research in the areas of entrepreneurial growth. The first stream, strategic perspective of entrepreneurial growth, is consistent with the tenet of strategic management and organization theory where there is considerable evidence that a firm's strategy, structure, process, environment, and the interface between these variables, influence entrepreneurial growth. Studies in this direction are mainly concerned with the predictors such as industry categories (Hay & Ross, 1989), entry barriers (McDougall & Robinson, 1988), environmental munificence and dynamism (Covin & Covin, 1989), competitive strategy and structure (Covin & Slevin, 1990), and the interaction between structural, cultural, and environmental factors (Fombrun & Wally, 1989). For example, Cragg & King (1988) evaluated the relationship between a wide range of planning activities in small firms and various performance measures. Covin and Slevin (1989) found a systematic relationship between managerial orientation, strategic posture, and firm performance under different environmental context.

Related research in this area focuses on the initial founding conditions of new ventures and the process of founding on their subsequent growth. For example, Duchesneau & Gartner, (1988) found that emphasis upon a number of formal planning models, including assessing the market, considering a number of functional areas, and devoting more time to planning, were all related to entrepreneurial growth. Research in this direction confirmed that networks might impact not only the process of founding but also the later practice and growth of the business. There is also a long tradition of studying the financing of new firms - a part of the entrepreneurial process, which is clearly central to the assembly of resources. Studies in this direction are mainly concerned with the influence of the amount of initial capital and the sources of the capital on subsequent entrepreneurial growth (Bruno & Tyebjee, 1984; Dunkelberg, et al, 1987).

While research in this direction illuminates the usefulness of certain activities and strategies in relation to entrepreneurial growth, it falls short in providing policy guidelines regarding how to *promote* entrepreneurial growth at the macro, policy level.

The second stream of research, an organizational life cycle perspective, is based on the organizational stages of growth hypothesis (Greiner, 1972). These studies of entrepreneurial growth often apply a lifecycle analogy to organizations that assumes that firms pass through a predictable sequence of stages as their product markets enlarge. For example, Scott and Bruce (1987), Churchill and Lewis (1983) developed five stages of small business growth, including inception, survival, growth, expansion, and maturity. Studies are concerned either with the characteristics of entrepreneurial growth in various predetermined stages of growth, or with validating the stages of growth model. Because entrepreneurial growth may be neither orderly nor sequential, these studies, descriptive in nature, are also limited in generating guidelines for promoting entrepreneurial growth.

The third stream of research, the micro, behavioral perspective is primarily concerned with the characteristics of individual entrepreneurs, including their experience, their education, and their psychological makeup such as need for achievement, locus of control, risk-taking behavior, sacrifice, motivation etc.. For example, Bailey (1986) found that a certificate of education or trade qualification was related to a higher index of growth for his sample of 67 Australian entrepreneurs. Individuals' breadth of experience, functional experience, and management experience tend to be viewed as one of the major predictors of entrepreneurial growth (Davidsson, 1991). The literature on the psychological characteristics of entrepreneurs demonstrates the diversity of approaches used by different researchers. In their literature review, Cooper, Gimeno-Gascon and Woo (1994) found that 31 different attributes such as sacrifice, motivation, intensity, risk-taking behavior have been investigated for their relationship to entrepreneurial growth. Overall, research findings in this direction have been extremely inconsistent and

contradictory, most of those studies narrowly focused on the independent effect of the psychological make-up of entrepreneurs.

2.2 Theoretical Limitations

Our literature reviews suggest several major limitations of current research in entrepreneurial expansion. First, simple treatment in entrepreneurial growth measures seriously hampers the model predictability, which contributes to conflicting results across existing studies. Consistent with the assessment of Hoy, McDougall & Dsouza (1992), we found that most studies define entrepreneurial growth as a unidimensional construct operationalized by a variety of growth measures ranging from increases in venture capital and market share, to growth in sales revenue, accounting-based return on investment (ROI), or number of employees. One major problem of these measures is that new business ventures oftentimes do not exhibit monotonic sales growth, therefore single-year sales or employment growth figures may capture aberrations thus not representing the true health of the firms. Conversely, if a researcher uses growth averages, such aggregated statistics again fail to capture complex growth patterns across time and may not accurately reflect the firm's current growth. Another problem for the accounting-based measures such as ROI and ROA, is that the data can be heavily influenced by decisions about ownermanager's compensation as well as industry margins. The upshot of this variety of measures is that comparability across studies is difficult. This is one of the reasons that little cumulative research can be identified in this area.

Secondly, most studies measured growth as the "realized" growth, which may fail to capture entrepreneurial growth in resources base, technology improvement and even market expansion. Entrepreneurial growth in these aspects would not necessarily be reflected in *current* sales or profit figures of a business venture. Whereas these measures may be 'final outcomes', it is necessary to ask the question about how these final objectives are achieved. A set of 'implementable attributes' which are "intentions-based" measures is called for.

In fact, researchers in the entrepreneurship arena already took note of the lack of reliable, valid and meaningful growth measures hampering researchers' effort (Chandler and Hanks, 1993). Bygrave (1989a, b) criticized existing growth measures, lamenting the use of simple accounting-based measures which do not deftly fit "disjointed, discontinuous, and the nonlinear process" of emerging businesses. Low and MacMillan (1988) also appealed to researchers to use concepts, measures, and methods grounded in theory and knowledge of entrepreneurial phenomena and call for a contextual and processoriented approach in developing measures. They viewed the development of reliable, valid and meaningful growth measures as imperative to our efforts to explain and facilitate entrepreneurial growth. Surprisingly, little efforts have been devoted to this direction so far.

Thirdly, the essential question of the extent to which infrastructure impacts entrepreneurial growth remains largely unanswered. This question is not quite as simple as it might appear, since we are interested in the impact of a wide range of infrastructure elements on entrepreneurial growth. Accepting the view of entrepreneurial growth as a multidimensional construct, we might expect some variance in the impact of different infrastructure conditions on various dimensions of entrepreneurial growth. Key research questions should be "Are certain elements of infrastructure more relevant to certain types of entrepreneurial growth?" Or are other infrastructure elements less critical to certain types of entrepreneurial growth? What combination(s) of infrastructure elements would maximize the potentials of entrepreneurial growth? The answer to these questions will also have important implications for policy-makers formulating different infrastructure strategies to foster entrepreneurial growth. Research in this direction would also fill several gaps of the entrepreneurship literature and enhance our understanding of the role of macro, contextual factors in entrepreneurial growth.

Consequently, this study attempts to address the following two questions. First, what are the different dimensions of entrepreneurial growth? And secondly, to what extent, are the different dimensions of entrepreneurial growth affected by infrastructure factors.

3. Research Model & Hypothesis Development

3.1 Infrastructure and Entrepreneurial Growth

Theoretically, there are two ways that infrastructure factors can affect entrepreneurial growth. On the one hand, infrastructure conditions can have great impact on the operation of business ventures that are already in operation. Within organizational research, the environment has often been viewed as the source of resources necessary for survival and growth (Dess & Beard, 1984; Pfeffer & Salancik, 1978). For example, business, informational and financial services provided by government have been viewed as important factors in stimulating entrepreneurial growth. On the other hand, infrastructure conditions will affect the new ventures' structure, processes and strategies at the time of their founding. The population ecologists argued that new firms are imprinted at the time of founding and this imprinting has lasting effects on subsequent strategy, structure and performance due to organizational inertia. The external control theorists suggested that organizations are imprinted by the environment at the time of founding in a manner that impacts their subsequent development and performance. This approach suggests that the ability of the new venture for growth may be determined by the external contextual factors that are outside the control of the entrepreneur (Aldrich, 1990). Surprisingly, the effects of infrastructure on entrepreneurial growth, as sources of resource and environment imprints, has received little direct empirical attention so far.

3.2 Hypothesis Development

Entrepreneurial growth and development is affected by a myriad set of variables. One set of variables that are included in many predictive models are those based on the individual entrepreneur and his or her personal characteristics, such as personal drive, creativity or initiative. However, individual personal characteristics are by themselves not strong enough predictors when they get swept away by macro economic forces (such as inflation or lack financing) or political forces (such as socialism or corruption/bureaucracy).

The research reported here focuses on a more "macro" approach, incorporating "infrastructure" variables as predictors of entrepreneurial expansion. Transition economies such as Romania are anxious to find "what works" and should be willing to provide infrastructural support to encourage entrepreneurial growth. In their experimentation process, they will vary the amount and proportion of public resources available in fine-tuning the allocation to achieve an optimum balance. Public policy therefore focuses on such infrastructure programs as providing government assistance and business support services. Other "durable" or "hard goods" are adequate physical facilities and financial support. Another set of predictors includes informational services that provide entrepreneurs the knowledge to grow and expand. Each item alone is an important predictor, but taken together, they could provide an important policy thrust to encourage entrepreneurial expansion.

3.2.1. Government Assistance

The Small Business Administration (SBA) and the Small Business Development Center (SBDC) program in the U.S. are two good examples of how government can encourage expansion. It is often to the government's economic advantage to grow businesses thereby increasing the tax base and revenues. It also adds to the general well being and quality of life of its citizens ("It's the economy, stupid!") which enhances politicians' election potential.

H1: *The greater the government assistance, the greater the entrepreneurial expansion plans.*

3.2.2. Business Support Services

Entrepreneurs alone cannot carry out complex expansion plans without some support from professional business services. They help shine the way along the path of risk and uncertainty. They encourage, answer difficult questions, conduct research and provide professional advice. Their guidance, reasoned input and past experience across various industries help focus the vision of the entrepreneur to expand his or her business.

H2: *The greater the use of business support services the greater the entrepreneurial expansion plans.*

3.2.3. Family-Business Harmony

A family locked into conflict, pulling the wagon in several different directions, cannot hope to effectively expand their business. As in any complex undertaking, a concerted effort of every family member is required to pull off a common effort that external forces (competitors, competing projects) attempt to thwart. Sacrifices, moral support, encouragement and family resources are required to complete the complex process of business growth.

H3: *The greater the family business harmony the greater the entrepreneurial expansion plans.*

3.2.4 Physical Facilities

For growth activity to happen, it must be housed in a physical location that allows for expansion and flexibility. Warehouses, distribution facilities, factories, retail locations, manufacturing sites with offices and managerial/technical manpower are required. The existence of these physical facilities also imply that they are sturdy, up-to-date and secure to survive the wear and tear that invariably occurs during expansion stages.

H4: *The greater the availability of physical facilities, the greater the entrepreneurial expansion plans.*

3.2.5. Financial Support

Although barter exists as a medium of exchange in Romania, it is increasingly relying on financial resources for its expansion plans. Whether it is from foreign investment, government supported banks, family savings, joint ventures or silent partners, Romanian businesses are becoming more westernized with respect to their financing mechanisms. Creative and unusual methods of financing have come into play in expanding their business.

H5: *The greater the availability of financial support, the greater the entrepreneurial expansion plans.*

3.2.6 Informational Services

In the age of uncertainty and turmoil during the transition economy stages, it is increasingly important to provide accurate information for expansion planning. Information is essential to allow entrepreneurs to make aggressive leaps across the chasms of the future rather than short, incremental steps. Information is the trusted resource that allows for the building of bridges to the future. Libraries, universities, consultants, government offices, suppliers and even family and friends contribute to the pool of knowledge that allows the entrepreneur to apply it to the design of growth strategies.

H6: *The greater the availability of information services, the greater the entrepreneurial expansion plans.*

Based on the literature, it is predicted that these six variables will explain a significant proportion of the variance in expansion plan endeavors. It is anticipated that the effects of these are cumulative, and work in concert to move the economy forward. It is also recognized that infrastructure alone is not the sole answer to explain why entrepreneurs grow their business, but it is an important, major set of elements that when taken together, contribute significantly to unraveling the mystery.

4. Research Design

4.1. Survey Instrument

Entrepreneurial Profile Questionnaire (EPQ) was utilized as a data collection instrument. The EPQ was designed to survey the effect of individual, societal and environmental factors on entrepreneurial expansion plans. From an individual perspective the most vital aspects of the entrepreneur including their attitudes, beliefs, motivations and opinions was captured. The role of social groups including the role and relationships of family and personal networks was also revealed. The EPQ allows for the capture of vital facts related to the socio-economic environmental factors such as demographic information as well as the level and the type of environmental velocity found in society.

The EPQ was successfully piloted and validated through a series of studies in Russia, Poland, the Czech Republic, Hungary, Lithuania, Estonia as well as South Africa, Mexico and the United States. The research of the Romanian entrepreneurs is part of our ongoing cross-sectional project of investigating the factors affecting entrepreneurial expansion in transforming economies. The EPQ was professionally translated and edited into Romanian, pre-tested and then retranslated to clear up ambiguities or idiosyncratic terminology.

4.2. Operationalization of Entrepreneurial Growth: the Dependent Variable

Questionnaire items were constructed based on how an entrepreneur actually thinks and behaves. His or her intentions to grow the business are actually implemented through a wide range of actions and decisions within the working environment. By probing through interviews and having these decisions enunciated, the research team was able to construct the items and processes in which entrepreneurs actually engaged. These items were actually condensed and summarized from a wider range of behaviors. Eighteen (18) items were identified as representing a fairly comprehensive collection of decisions which entrepreneurs actually implemented. A series of complementary studies in different cultural/geographic settings confirmed the accuracy of these measures. These sites included Russia, Hungary, Poland, Estonia, Lithuania, Mexico, East Germany and India. The entrepreneurial growth included the following dimensions:

Computerizing current operations	Adding a new product or service
Upgrading computer systems	Selling to a new market
Adding specialized employees	Adding operating space
Redesigning layout	Expanding distribution
Offsite training of employees	Expanding advertising and promotion
Redesigning operating methods	Researching new markets
Seeking additional financing	Acquiring new equipment
Seeking professional advice	Replacing present equipment
Expanding scope of operating activities	Expanding current facilities

4.3. Research Site: Romania's Privatizing Economy

In order to find a research site where the infrastructure of the economy was not yet fully developed, Romania was chosen since infrastructural elements of its privatizing economy were only yet evolving and had not yet been finalized. The research approach in this manner allowed new entrepreneurs to experience deficiencies which would be identified as a need as well as report those elements which were operating satisfactorily. Thus, the set of independent variables would have a wider distribution than say a fully developed economy with a complete infrastructure in place.

A major assumption of the present research is that one of the greatest obstacles prohibiting the growth of entrepreneurship and private enterprise is an inadequate infrastructure. Romania's transportation, communication, and lagging financial institutions made private sector enterprise development difficult. Although some post Depression legislation supported entrepreneurship, the emerging nationalistic fascist movement during the same period favored state control of enterprise. During the latter years of Communism the state controlled in excess of 90 percent of the economic resources in Romania. The centralized state control continued to invest in heavy industry at the expense of consumer goods and agriculture. The country's infrastructure continued to lag behind what was required. The only sign of entrepreneurship appeared during the early days of the Ceausescu era in 1967 when the state permitted some private shops, restaurants and boarding houses. This was short lived and a pacifying ploy aimed at both the West and the Romanian people themselves.

Romania and the emerging markets of the former Soviet Bloc are rich in opportunity, but also, because of the political instability associated with transition, extremely volatile and risky. The lack of managerial training and competent employees seem to act as barriers to entrepreneurial growth and development. Technical assistance, market information, legal services, transportation and banking services seem to be making some headway into supporting the privatizing economic sector.

Thus, some infrastructural elements are being put into place, while others are still missing. There are many lessons to be learned in Romania as to which of these services are providing the most opportunity for entrepreneurs to develop their business. The goal of this research is to identify and document which of these elements (if any) enable entrepreneurs to move forward in Romania.

4.4 Data Collection and Sampling Procedure

A sample representing across-section of new business ventures across a variety of geographic areas as well as industries was taken. A cluster sampling technique was utilized to collect data from eight urban centers throughout Romania, including Bucharest Brosov, Timisoara, Cluj-Napoca, Contanta, Arad, Craiova, and Galati. Business ventures were randomly selected from the client list of Romanian Small Business Development Centers (SBDC) as well as from the local chamber of commerce private enterprise databases.

Personal interviews rather than random survey as the primary method of data collection was chosen for the following reasons. First, in a transforming economy like Romania, private business ventures are at the very early stage of development. In this situation, the interview method enhances the validity and reliability of the sample data. Secondly, the experience of Romanian research counterparts suggested a very low response rate for survey research. The data collection process was assisted by Two Romanian Universities, the Academy of Economic Studies - Bucharest (ASE) and the Polytechnic University of Bucharest (PUB). Both ASE and PUB have an excellent network of contacts throughout Romanian. A team of 30 Romanian scholars were assembled from both institutions. The research team members were familiarized with the EPQ and trained in the interview method. They were sent to each major urban center to conduct interviews with entrepreneurs who recently started their businesses. A total of 405 filled questionnaires were returned.

4.5 Test of Sample Randomness by Different Industrial Groups

One question that arises from the interview data collection approach is whether there is a random sample and to what extent the empirical findings from our research can be generalized to the population level. ANOVA was used to test if there was any sample bias in the convenience sample. As indicated in Table 1, the sample was grouped by different industries, which is the categorical variable in our model and company size measured by the number of employees as the dependent variable.

The ANOVA tests indicate that the group variable - industrial classification is not a predictor of firm size, suggesting that we have a fairly reasonable unbiased sample even though a random procedure was not used in the sampling process.

Table 1 ANOVA: industrial classifications as categorical variable and size of company by number of employees as dependent variable

<i>Source of Variation</i>	<i>Sum of Squares</i>	<i>Degree of Freedom</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig. Of F.</i>
Main effect					
Size of company	5199.907	8	649.988	1.528	0.147
Explained	5199.907	8	649.988	1.528	0.147
Residue	115736.449	272	425.502	1.528	0.147
Total	120936.356	280	431.916		

4.6 Validation of measurement: Factor Analysis

Both entrepreneurial expansion plans and infrastructure items were factor-analyzed. The factor analysis produces a clear structure with items loading on the appropriate factors, with only a few items being deleted because of low or incorrect loading. Results from the factor analysis of entrepreneurial growth reveal three factors, resource aggregation, market expansion, and technology improvement, which explain 60 percent of cumulative variance and demonstrate excellent validity (Table 2). Additionally, internal reliability tests showed strong Cronbach alphas ranging from 0.6744 to .8986.

Table 2. Factor Analysis of Entrepreneurial Expansion Plan

<i>Dimensions</i>	<i>Factors</i>		
	<i>Resources Aggregation</i>	<i>Marketing Expansion</i>	<i>Technology Improvement</i>
Computerizing current operations	.67562	.16080	.39686
Upgrading computer systems	.75169	.13081	.35209
Adding specialized employees	.50997	.28878	.39490
Redesigning layout	.70612	.15634	.20802
Offsite training of employees	.63702	.18472	.28599
Redesigning operating methods	.7769	.10429	.19011
Seeking additional financing	.68532	.20874	-.04473
Seeking professional advice	.71995	.20976	.07246
Expanding scope of operating activities	.49574	.16172	.38090
Adding a new product or service	-.00030	.70851	.11896
Selling to a new market	.25643	.71719	-.00919
Adding operating space	.08556	.64224	.16052
Expanding distribution	.27710	.77900	.10915
Expanding advertising and promotion	.30434	.63887	.10803
Researching new markets	.32797	.49908	.05801
Acquiring new equipment	.19302	.13472	.72805

Replace present equipment	.39722	-.09928	.65728
Expand current facilities	.05007	.33438	.75644
Cronbach α	.8986	.7879	.6744
Cumulative Variance explained by the three factors: 59.9%			

Factor analysis of the independent variable, infrastructure, unveils six dimensions, including government assistance, business support services, family-business harmony, physical facilities, financial support and informational services (Table 3). In total, these factors account for 60.1 percent of cumulative variance. Cronbach alphas for each of the factors ranged from 0.7034 to 0.8952, indicating excellent internal reliability.

Table 3. Factor Analysis of Infrastructure Obstacles

<i>Dimensions</i>	<i>Factors</i>					
	Business Service	Government Support	Financial Support	Family & Business Harmony	Physical Facilities	Informational Service
Lack of distribution channels	0.4364	0.2273	0.4117	0.0970	0.2387	0.0510
Lack of market information	0.6496	0.2329	0.0060	0.0512	0.1540	0.3424
Lack of sources of technical assistance	0.7358	0.1074	0.1300	0.0626	0.1591	0.1687
Lack of managerial services	0.8201	0.1767	0.0769	0.1062	0.0810	0.1308
Lack of employees trained in financial affairs	0.7527	0.1749	0.2155	0.1945	-0.1158	-0.0865
Lack of employees trained in marketing	0.8114	0.1455	0.1294	0.1271	-0.0180	0.0268
Lack of legal services	0.5434	0.3961	0.3845	0.1477	0.0029	0.0739
Lack of international trading information	0.7344	0.1583	0.0807	0.0029	0.1385	0.1736
Lack of clear regulations re. Private	0.2100	0.5447	0.2428	-0.1711	0.1988	0.3322

entrepreneurship						
Negative attitude toward profitmaking	0.2358	0.4697	0.4279	0.1888	0.0696	-0.0169
Corruption	0.1389	0.6289	0.3105	-0.0328	0.0469	0.01462
Anti-market attitudes and behavior by government	0.0890	0.7697	0.2415	0.1015	0.0155	-0.0184
Government assistance agencies	0.2936	0.5012	0.3043	0.1407	0.0268	-0.1364
Bureaucratic red tape	0.2685	0.6893	-0.0436	0.0887	0.2966	0.1184
Roads	0.1971	0.6697	-0.1861	0.2384	0.2007	-0.0216
Lack of security	0.2933	0.5093	0.3430	0.1904	-0.0032	0.0222
Obtaining a loan	0.1401	0.1431	0.6217	0.0680	0.4334	0.0686
Extension of credit form suppliers	0.0913	0.0447	0.5891	0.2608	0.0097	0.0932
Lack of access to capital	0.1452	0.2308	0.6098	-0.0770	0.1644	0.2993
Scheduling business and family activities	0.1005	-0.0239	0.1857	0.6604	0.1001	0.0666
Fatigue from long hours	0.0772	0.0610	0.1641	0.6841	0.0587	0.0640
Bearing the entire risk of start-up	0.0041	0.1143	-0.1602	0.6685	0.0884	0.2202
Finding enough time to spend with my children	0.1137	0.0212	0.2549	0.6263	-0.1377	0.0987
Finding a good location	-0.0031	0.1008	0.0975	0.0522	0.8200	0.0248
Storage/warehouses	0.03021	0.3812	0.0608	0.2475	0.4621	-0.0679
Construction costs	0.2069	0.2045	0.3806	0.0115	0.5374	-0.0829
Lack of guidance and counsel	0.1967	0.0235	0.1074	0.3202	-0.1105	0.7462

Lack of knowledge of relevant information sources	0.2491	0.0780	0.1332	0.2170	0.0254	0.7937
Cronbach α	0.8952	0.8521	0.7034	0.7125	0.8149	0.7176
Cumulative Variance explained by the six factors: 60. 1%						

For both dependent and independent variables, factor scores, instead of summated scales were chosen and computed because of the desire of orthogonality of the measures in subsequent multiple regression analysis.

4.7 Method of Testing

The proposed hypotheses were tested using multiple regression models as indicated below. These regression models tested to what extent the six infrastructure dimensions affect entrepreneurial expansion, including resources aggregation, market expansion and technology improvement. The standardized b_i would indicate the relative importance of each factor in determining the entrepreneurial growth.

1. *Resources Aggregation* = $a + b_1 * \text{Business support service} + b_2 * \text{Family and Business harmony} + b_3 * \text{Financial Support} + b_4 * \text{Government Support} + b_5 * \text{Informational Service} + b_6 * \text{Physical facility} + \varepsilon$

2. *Market Expansion* = $a + b_1 * \text{Business support service} + b_2 * \text{Family and Business harmony} + b_3 * \text{Financial Support} + b_4 * \text{Government Support} + b_5 * \text{Informational Service} + b_6 * \text{Physical facility} + \varepsilon$

3. *Technological Improvement* = $a + b_1 * \text{Business support service} + b_2 * \text{Family and Business harmony} + b_3 * \text{Financial Support} + b_4 * \text{Government Support} + b_5 * \text{Informational Service} + b_6 * \text{Physical facility} + \varepsilon$

5. Results and Discussion

The results of the regression analysis are summarized in Table 4 and Figure 1(omitted). Overall, all regression models are statistically significant. The six dimensions of infrastructure explained 43 percent of total variance of entrepreneurial expansion. However, there is significant disparity of the R square for each model.

Table 4. Summary of Regression Analysis

	<i>Models (dependent Variables)</i>					
	<i>Model I</i>		<i>Model II</i>		<i>Model III</i>	
	<i>Resources</i>	<i>Aggregation</i>	<i>Market</i>	<i>Expansion</i>	<i>Tech.</i>	<i>Improvement</i>
<i>Independent variables</i>	b _i	T	b _i	T	b _i	T
Business Service	-.4056	-8.682***	-.1680	-3.251***	-.0090	-.172
Farnily-Bus. Harmony	.0435	.922	.0420	.804	.1161	2.191**
Financial Support	-.2817	-5.960***	.0759	1.452	.0461	.868
Government Support	-.0166	-.251	-.1032	-2.023**	-.1310	-2.532**
Informational Service	.1416	3.039***	-.2438	-4.729***	.1074	2.053**
Physical Facilities	.0643	1.345	0.991	1.875*	-.0356	-.664
Multiple R	.5186		.3385		0.2149	
R Square	.2690		.1146		0.0462	
Adjusted R Square	.2561		.099		0.0294	
F	20.9064***		7.3553***		2.7506**	
*** $\alpha=0.01$, ** $\alpha=0.05$, * $\alpha=0.1$						

More specifically, infrastructure accounted for 26.9 percent of the variance of growth through resource aggregation, 11.46 percent for growth through market expansion and 4.62 percent for technology improvement. This suggested that in a transition economy like Romania the impact of infrastructure on market expansion and technology improvement is limited. It is resource aggregation that is the dominant source of entrepreneurial growth (Figure 2--omitted).

At this stage of Romanian entrepreneurial development, policy makers need to focus on infrastructure resources that will facilitate resources aggregation and reconfiguration, rather than target technology improvement. Therefore, policy makers need to take into consideration the existing dominant pattern of the current stage of entrepreneurial growth as they select the combination of infrastructure resources that can be offered to entrepreneurs.

Results from Model I (table 4) indicate the business service and financial support have significant negative impact on resource aggregation in Romania, to the contrary of our hypothesized directions (H1, H4). Findings from Model I also demonstrate that information service is positively associated with resource aggregation, consistent with our hypothesis. The impact of family-business harmony on resource aggregation is positive as predicted, but

statistically insignificant. To our surprise, government support has a negative impact on the resource aggregation of Romanian entrepreneurs, even though the impact is statistically insignificant. These findings suggest that Romanian entrepreneurs continue to expand despite the lack of business services and financial support. They tend to find innovative ways to deal with the unavailability of business service and financial support. Nevertheless, information services provided by the Romanian government do play an important role in resource aggregation. In a transition economy like Romania, the government information service is the primary source of information which entrepreneurs rely on to optimize the utilization of their resources.

Results from Model II show that three infrastructure factors, business service, government support and information service are all negatively related to market expansion, contradictory to our hypotheses. Consistent with our prediction, market expansion is positively affected by physical facility. The findings suggest several interesting observations. First, Romanian entrepreneurs didn't rely on government's business service, support and information service to seek market expansion. Second, because the dominant growth pattern of Romanian entrepreneurs is resource aggregation, only a small number of Romanian entrepreneurs realized the importance of intangible resources such as information and business service in market expansion. It is no surprise that they tend to focus on tangible factors such as physical facilities. These findings shed additional light on the assessment of the growth pattern of Romanian entrepreneurs. Third, Romanian entrepreneurial growth in term of market expansion is not hampered by the lack of legal services, lack of technical assistance or lack of information services. In another words, Romanian entrepreneurs commit to market growth despite the obstacles in the business and information service area.

Results from Model III indicate that growth through technology improvement is positively affected by business-family harmony and information service, and again negatively related to government support. These findings suggest the following. First, family support is critical because growth through technology improvement is riskier than other growth alternatives such as resources aggregation and market expansion. Lack of basic business service and shortage of venture capital in a transition economy requires Romanian entrepreneurs to rely on the first and last resort -- their family for physical, financial and emotional support. Second, Romanian entrepreneurs who relied on technology improvement as source of growth indeed recognized the importance of information service.

The impacts of financial support on market expansion and technological improvement are positive, but statistically insignificant. Surprisingly, we found that resource aggregation is negatively affected by financial support. These findings suggest that entrepreneurial expansion in forms of market expansion and technological improvement would not necessarily have to rely on financial support. On the contrary, lack of financial support leads entrepreneurs to rely on expansion through reconfiguring existing resource bases.

The results in table 4 also demonstrate the overall negativity of entrepreneurs toward government support and business service. In all growth models -- resource aggregation (I), market expansion (II), technology improvement (III), Romanian entrepreneurs regard government support and business service as negative factors, rather than positive factors as mainstream theories would predict. Such negativity can be easily explained by the negative experience that Romanian entrepreneurs had in the past under the central-planned economy. To a certain extent, they equate government intervention with government support.

The results also highlight the importance of family-business harmony in the entrepreneurial growth of Romania. In all three growth models, family-business harmony is positively related to technology improvement, resource configuration and market expansion, despite that its impacts on the latter two are moderate and statistically insignificant. It implies that family support is critical when a riskier expansion strategy like technology improvement is chosen.

Overall, infrastructure factors were hypothesized to be positively related to entrepreneurial expansion. However, in 6 of 10 cases, the opposite proved to be true. These findings suggest that the Romanian entrepreneurs would pursue expansion plans in spite of the obstacles thrown into their path. Perhaps they have already developed strategies about overcoming those obstacles and in that process have developed the strength, ingenuity and confidence to grow their new business ventures. Perhaps the many years that Romanians were confronted with numerous political and economical obstacles, have forced them to become more resourceful, flexible and adaptive. This counter-intuitive finding reflects on the hardiness and perseverance of the Romanian entrepreneur.

6. Conclusions

The findings have important implications for policy makers. Entrepreneurs may not necessarily pursue the three elements of growth and expansion in the same proportion as advocated by government directives. Also government officials may not realize that economic growth and expansion can be compartmentalized and refined into various categories as these data would suggest. Since this is only the first pass at these data, it is possible that there could be a fourth and a fifth category which have eluded capture. Nevertheless, the research raises an important question as to which group, government or entrepreneur, is leading the other? Is government more enlightened in pursuing economic development nationally or is the entrepreneur more enlightened in pursuing his or her economic self-interest individually?

The study also suggests that families, as a unit, are also a powerful force as a network for collecting information and resources for the entrepreneur, as important resource providers for business expansion efforts, but also as a significant socio-political force in thwarting government efforts to move the economy in certain directions unsanctioned or unapproved by family leaders. Such behaviors clearly show the flaws and weaknesses of command economies.

The study also suggests that intentions serve as a powerful force in economic behavior. Even though intentions are the best predictors of planned behavior, surprisingly little attention has been paid to categorize entrepreneurial expansion based on intention. As measures become more accurate and comprehensive, the predictive power of intention-based models will be enhanced.

The major conclusion of this study of Romanian entrepreneurs suggests there is no unitary way of promoting entrepreneurial growth. The effects of infrastructure on the three dimensions of entrepreneurial expansion vary significantly. Therefore, the policy makers need to formulate various infrastructure strategies, contingent on the dominant pattern of entrepreneurial growth being sought. Expansion in terms of resource aggregation and technological improvement is mostly determined by the quality of information service, while market expansion is most affected by physical facilities. Economic planners may wish to recognize the contingent nature as well as the refinements in expansion planning identified in this study. To continuing these findings, plans have been made to test this model in various national settings.

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A STRATEGY FOR INTERNATIONALIZING THE
UNDERGRADUATE BUSINESS CURRICULUM

EXTENDING THE SCOPE OF THE CONSULTATIVE TEACHING MODEL: A STRATEGY FOR INTERNATIONALIZING THE UNDERGRADUATE BUSINESS CURRICULUM

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Abstract

Much like a business beginning to consider international activity, a business school in the initial stages of internationalizing its curriculum, must determine its goals or deliverables, evaluate its core competencies or strengths and develop a strategy which reflects a realistic marriage between the two. This paper develops one strategy for internationalizing a curriculum based upon Millikin University's Tabor School of Business's core competency, our experience in using the consulting model pedagogy. This model combined with select institutional strengths and opportunities is the base for curriculum internationalization.

Introduction

The globalization of business has provided a challenge to business schools to thoroughly internationalize their curriculum. This challenge is particularly acute for an undergraduate only program located in a small somewhat parochial community in the middle of the United States. The long history of the United States' large, relatively self contained, economy has meant that business was often studied with only passing reference to international endeavors. Business faculty trained in other times often lack sufficient knowledge to easily bridge this gap. Major hurdles in meeting this challenge include; engaging the students, energizing the faculty, and finding effective means to accomplish both. However, in today's global economy meaningful internationalization is imperative if a program is to remain relevant.

The key to engaging students is using an active learning pedagogy rather than lecture or even case study. Our experience has shown that a consulting model approach to teaching satisfies today's students need for the feeling of involvement. They appreciate the learning experience more if that learning takes place in what they perceive to be a real world context.

Using actual business clients as a base provides that validation and engagement. But there are substantial difficulties in applying this model in an internationalized curriculum.

Internationalization

When a business begins to consider international market-entry strategies it evaluates such factors as risk, capabilities, expertise, market opportunities and commitment. Based upon this assessment, several strategic modes of entry are available to a firm; Indirect Exporting, Direct Exporting, Licensing, Joint Ventures and Direct Investment. This framework also seems useful for universities beginning their internationalization process. Each

institution, based upon its unique needs, must decide how it will participate in the international arena. It could choose only to offer traditional international courses or it could pursue a more active international involvement. For instance, assisting our students to attend universities abroad could be viewed as indirect exporting. Rather than producing and exporting the service itself the university, in affect, hires a foreign agent to perform this activity. On the other hand establishing campuses in foreign countries is more analogous with the direct investment approach. Establishing full exchange programs with institutions or developing agreements where an international institution can use your curriculum and grant your degree are strategies comparable to joint ventures and licensing. The value of examining university entry into the international market from this perspective is that it provides a framework to evaluate the organizations best chance for success. In determining which strategic mode to adopt, a school, much like a business beginning to consider international activity, must evaluate its core competencies or strengths, determine its goals or deliverables, and develop a strategy which reflects a realistic marriage between the two.

Strategy Evaluation and Selection

Core Competency

Perhaps the Tabor School of Business's most significant core competency is its design and use of the "Student Driven/Student Focused (SD/SF) Consultative Model" as a successful pedagogy (Table 1) This model has been successfully employed at Millikin for over 20 years as a vehicle to link theory and practice.

Table 1 - Student Driven/Student Focused Consultative Learning Program		
	Student Focused	Client Focused
Student Driven	SD/SF	SD/CF
Client Driven	CD/SF	CD/CF

Focus - On Whom the Outcome is Focused

Driven -Who Provides the Impetus and Direction to the Study

Student Driven - The student determines the problem and project scope and their capabilities and level of the limits of learning

Student Focus - Student learning needs and goals are the central focus project outcome

Client Driven - Client specifies the scope of the project.

Client Focus - Client needs are central to the project's outcomes.

SD/SF - Project outcomes are primarily focused on student learning although clients will receive value. Students participate in the problem discovery and drive the scope.

Primary Teaching Model used at Tabor undergraduate level

SD/CF - Students participate in problem of discovery and drive the project scope. The focus is on producing value for the client rather than structuring the project primarily for learning opportunities.

Model used for courses where learning goals are secondary perhaps at Masters level

CD/SF - Client defines the problem and project scope but the primary focus is usually narrow to help the student learn.

Field case experience

CD/CF- Client defines the problem and project scope and the focus of the outcome is the client need.

Traditional Consulting Model

In this model, Millikin's undergraduate students make key decisions about the identification of problems and direction of projects. Faculty choose projects according to the learning needs of the student, not simply client needs. Clients are chosen carefully to include only those willing to enter into a partnership of learning with the students. The client is benefited by low cost research and the knowledge that each student team is guided by experienced faculty and business people who also lend their expertise. The student is benefited by hands-on involvement with real-world clients and participation in seeking practical solutions to real-world problems.

SBI/SCORE

The success of this model as an effective pedagogical tool is grounded in the Tabor School's unique and long-term relationship with the Small Business Institute (SBI) and the Service Corp of Retired Executives (SCORE) as well as a supportive institutional and local culture. The Tabor School has specialized in work with small and medium sized business for over 20 years. Through these 20 years we have come to understand the value undergraduate students bring to businesses of this size. Large corporations have the resources to hire professional expertise but the small/medium businesses who do not have these resources benefit greatly from the work done by these undergraduate students.

This heritage and the unique partnership with SBI and SCORE has served as the foundation for our core competency. This core competency is a culmination of efforts to effectively serve small and medium businesses while supporting institutional learning goals that began over 20 years ago when Millikin University began participating in SBI programs. The SBI program contains 2 significant parts, a small business consulting client-based case program and SCORE. The Tabor School of Business, in large part because of its institutional culture of wedding theory and practice, became the first university to identify the rich educational advantage of housing the SCORE chapter within the school of business. Having retired executives in the same physical proximity with the faculty and students has led to a much more extensive infusion of SCORE knowledge and perspective into our learning culture.

SCORE is fully integrated into the Millikin's SBI program and has an office within the Tabor School of Business. SCORE members screen SBI cases and integrate students into their consulting efforts. Students are also exposed to entrepreneurial efforts in part through junior/senior level courses in which they develop comprehensive business plans and present them in a professional setting to SCORE members and an independent board of business executives. Although highly successful, these courses and entrepreneurial consulting opportunities have historically been domestic in nature. If this core competency is to be fully utilized the Student Driven/Student Focused model should be expanded to incorporate an international experience.

Goals and Deliverables

The SD/SF model works well not only because of the Tabor School's tradition but also because it fits well into the University's mission. The first principle of Millikin University's "Program of Student Learning" states: The program should emphasize integration; it should foster students' ability to integrate theory and practice, it should intentionally develop knowledge, values, and skills in a sequential and interconnected fashion; it should heighten awareness of the links between their college experience and the world beyond. Consistent with this principle, an important Tabor School of Business goal is to create increased global awareness and experience for its students through active learning pedagogy, focused on the integration of international education with existing Tabor strengths.

In addition to the normal consulting model outcomes it is expected that the internationalization of the curriculum will:

- Connect students in a meaningful way to an international client,
- Excite the business school about international opportunities through the work of the faculty and the student teams,
- Provide rich new experiences for faculty through working in an international setting that would be translated and infused throughout their teaching and scholarship.

Unique Institutional Strengths and Opportunities

An analysis of our strengths and opportunities led to the realization that we had an ideal venue in which to develop our international experience. Beginning in the early 1990's, Millikin University recruited internationally for a short period of time. As a result of these efforts several Malaysian students had attended and graduated from the Tabor School. In 1996, there were 8 graduates working in either Penang or Kuala Lumpur. They were employed in banks, construction companies, and technology firms. We recognized that the strong relationships between these former students and our faculty and the commitment of these alumni to helping Millikin internationalize was a strength on which we might build. Moreover, we knew that the Malaysian government's development strategy privileged small business and that English was widely spoken in Malaysia.

In short, our support from Malaysian alumni, our competency in working with small business, and our native language all pointed to opportunities in Malaysia. The epiphany however, occurred when one of our Malaysian students approached the faculty about a summer project. One of our clients, a small wholesaler/processor of specialty soy beans, was interested in Asia as a market. He developed a summer project in which our student would investigate the market and export feasibility to Malaysia and Singapore. The project's success both in terms of the client's needs and the richness of the student's learning experience led us to appreciate how valuable providing similar expertise for small Malaysian businesses who needed information about U.S. markets could be for them. Just as a Malaysian student could be exceptionally valuable to a U.S. firm interested in Malaysia, U.S. students could be equally valuable to Malaysian firms interested in the U.S. As a result we decided to "internationalize" our

core competency. Each educational institution will have differing sets of strengths, competencies and limitations. However, this model for international entry should be applicable across institutions and countries.

Implementing the Internationalized Consulting Model

During the 1996-97 academic year three Tabor faculty members traveled to Malaysia with the idea of pilot testing the consulting model. As previously indicated, Malaysia represented an ideal venue for expanding our international efforts.

The faculty team realized the need to identify and establish contacts prior to arrival and this was made easier by the student alumni and parents who were eager to help facilitate the kind of contacts needed. Stateside, both the U.S. Export Trade and Assistance Center and MIDA (Malaysian Industrial Development Association) in Chicago, Illinois helped arrange meetings with MATRADE (Malaysian External Trade and Development Corporation). MATRADE is a corporation under the Ministry of Trade in Malaysia and their primary purpose is to promote Malaysia and the products of Malaysia. A study done by them in 1993 indicated that there were 11,300 SME's (Small and Medium Enterprises) in Malaysia and that 20% of these were in the export business. Once rapport was established, MATRADE officials were very willing to assist us in identifying businesses that we might work with. Eventually two snack food producers were selected and factory tours arranged. These firms were identified as needing assistance in evaluating international barriers to exporting to the United States and were agreeable to working with the university utilizing the SD/SF consulting model.

The faculty team knew from their work with student consulting for U.S. companies that successful implementation of the consulting model in an international setting is dependent upon first establishing a rapport and trusting relationship with the client. It was also acknowledged by the faculty team that the SD/SF concept of consulting as a vehicle for providing assistance to Malaysian business would need to be carefully explained and continually reinforced. The successful implementation of the model depended upon: 1) the client understanding that he/she would be working and communicating with the student team, not the faculty, 2) key decision makers in the business needed to be involved in the process, 3) the expected outcome of the consulting was a report on the feasibility of exporting to the U.S. not penetration of the market, 4) client agreement on the timeframe for the work, 5) agreement by the clients that they would bear the costs of communication such as fax and phone and that, 6) information about the company which was requested by the students would be available.

Establishing the Course

Integration of the consulting model into the curriculum was accomplished by offering a course in the business management and international business major in the fall of 1997. The course was open to all junior and senior business students during both the Fall and Spring semesters.

Students were selected into this course based upon academic strength and project interest. Teams were formed for each client project. Each team developed a needs assessment and a statement of work. This statement directed the team's semester work. Work was conducted in two major areas; trade regulations and entry barriers, market research and product evaluation. The student teams communicated with the client mostly by fax and the timeliness of the communication was most difficult to control. Communication by telephone was infrequent but useful in the introductory phase of the course and at the conclusion of the project.

Telephone was also the most expensive form of communication. Establishing e-mail communication was the ideal, but at the time, none of the Malaysian clients utilized this technology. As part of the background research the faculty developed a set of materials including selected readings from and about Malaysia and its economy, and a slide presentation to help the students understand the uniqueness of the culture.

The proposed clients for each semester remained the same. Although many field courses have different clients for each semester, the difficulty in establishing a communication network, the timeframe for communication to occur, and exposing students to foreign research avenues greatly increased the time needed for students to begin to understand what needed to be done. For this reason the client in the Fall semester was the same as the Spring semester. This posed some problems that one would not have if a new client were able to work with a new group of consulting students each semester. Maintaining the momentum of the class is problematic. There is anticipation as well as anxiety generated in a consulting class when both client and students are new. The "act of discovery," learning about each other and establishing a client relationship, is a priority in the first semester of working together. In the second semester, when students are new but the client is the same, clients exhibited little patience with working with new students in setting up communication channels and answering questions that the client felt had already been answered.

The second year this course was taught clients were developed during the faculty's summer visit to Malaysia for both fall and spring semesters. While the elapsed time between the summer visit and the beginning of work on the spring case was not ideal the problems were less with this scenario than trying to run one case across a full year. A common problem noted in both the first and the second year of teaching the course, was the lack of personal interaction between the client and the student consulting team. The student teams in international consulting never developed the same kind of rapport and relationship that the U.S. student consulting teams developed with their clients. SCORE members were recruited and served as an audience for the student team by reviewing the students' progress and although they were helpful in their comments and feedback, their function as a surrogate client did not replace the experience that face-to-face encounters provide. This lack of a personal relationship created a distance between the student team and the client that was never bridged. In both years, establishing a client relationship, setting up communication channels, and the orientation of students to cultural differences took much longer than anticipated. In the U.S., the students would have met with the client several times during a week and received feedback on their progress and suggestions about what needed to happen next. With the international consulting class and communication by fax, the time it took for the students to pose written questions to the client and to receive answers was long, often two to four weeks. This meant that the students needed to establish assumptions based on secondary research data and work ahead of the information received from the client.

Assessment/Evaluation

The proposed goals for this course were to heighten awareness of the links between the business of the United States and a foreign country as well as enhance the international business major and provide a model that would be useful for faculty to use in integrating international business theory and practice into the entire business curriculum. An evaluation of students who participated in the course indicates that they have increased understanding and knowledge about how the United States works with foreign companies and the many factors involved in entering a foreign market, both on the export and import side. The students learned to use business and professional contacts from government to private sources that they would never have had the opportunity to contact prior to this course. They learned how to negotiate with and get through to a variety of people in both public and private sectors. Many of these students developed ongoing, credible contacts for future team use and for the client to use. They also learned how to represent and qualify information sources. These students also stated they gained an appreciation of the cultural nuances that are at work in the international business arena. Students in the course had the unique opportunity to interact with Malaysian students from the same cities as the clients.

For many of these students, it was their first experience with using a problem based learning model. They were forced to determine what information they needed and to figure out where they would find the information. They were forced to evaluate the information they received, to integrate it into recommendations for the client and to prioritize the recommendations.

Faculty working with this pilot course developed an appreciation for the need to develop resources outside of the traditional research area. Faculty were called upon to develop relationships outside of the academic area and to function as coaches and facilitators. Faculty became intimately involved with the student teams while exploring strategies and resources necessary to provide relevant and meaningful information to the client. More so than in most teaching situations, the search for good, relevant and timely information was a priority. This priority was shared equally between student and teacher. The transfer of conceptual knowledge to an applied situation was accomplished by using the SD/SF model for internationalizing the curriculum.

In addition to the direct educational value to students, our experience indicated that in working directly with the clients and the Malaysian government offices many other opportunities arose for faculty research and consulting, for student internships, and in some cases long term relationships with clients who were successful in exporting or wanted to continue the exploration. In addition we met with Malaysian Universities that had 2 year American transfer programs to encourage their students to matriculate to Millikin for their last two years. Through this work we were able to identify a University with whom we had mutual goals and began negotiations to establish a study abroad program tailored specifically for the needs of our sophomore business majors. It is obvious how important this could be to increasing our students' opportunities for international experience, not to mention the reciprocal value of recruiting additional international students into our program. The presence of such international students on our home campus is also a critical part of internationalizing the curriculum. As faculty continue to work in a particular country, learn to recognize needs and opportunities, and develop an international sophistication, many creative ideas and programs which will be of great potential educational value to the institution will occur. It will just be a matter of selecting those which best fit the institution's needs and capabilities.

Conclusions

The use of the student driven/student focused consultative teaching model as a strategy for internationalizing the curriculum is an excellent option. It provides good value while minimizing organizational risk and serves as a platform for further internationalization within the university.

Specifically the students profited through heightened engagement made possible through the compelling nature of the personal client contact and the faculty's increased ability to give meaningful context to the project. However, a weakness in the model was in our inability to provide the students an opportunity to meet directly with the client. If this barrier can be overcome the value of the model will be considerably enhanced.

The University received excellent publicity about both the work of the student and the faculty which has resulted in additional international opportunities for the Tabor School of Business in the form of potential partnerships with local firms and other foreign universities that have contacted us.

The professional development of the participating faculty was greatly enhanced by the nature of the project. The project required extensive face to face contact with both Malaysian business and government officials in order to sell and develop the program. This opportunity to truly "work" in an international environment was invaluable to the development of faculty with limited or no international experience. Certainly in the case of those directly participating, both consciousness and enthusiasm about the value of the international experience was raised. At this stage this may be the greatest value to the institution.

For the Tabor School of Business using the curriculum and this model as a point of departure for internationalizing the curriculum worked well. It allowed us to use our core competencies, rely on unique strengths and opportunities, and gave us the measure against which all pursuits of the nature should be gauged. Did it support the educational mission of the organization and enhance the value to students? We believe it did.

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THE CHARACTERISTICS OF SMALL BUSINESS HUMAN RESOURCES -- A COMPARISON OF SMALL AND LARGE FIRMS

Lawson Savery and Tim Mazzarol

Abstract

This paper examines the characteristics of human resources management within small businesses and draws a statistical comparison with larger firms. It uses the results of the Australian Workplace Industrial Relations Survey (AWIRS) conducted in 1995. AWIRS is a study undertaken every five years since 1990 by the Australian government. This survey drew a sample of 2,001 workplaces with over 20 employees and 569 businesses employing less than 20 employees. The survey examined a broad range of human resource issues relating to such things as recruitment, termination, training, unionization, absenteeism and internal communications. Using discriminant analysis a model was developed to define the characteristics distinguishing the small firm approach to human resources management from their larger colleagues. Findings suggest that small businesses tend to have less formal HRM procedures than do large firms. The model provides preliminary results with implications for management and research. They suggest that small business managers need to focus more attention on the development of formal HRM systems as part of their business planning. Future research will make use of subsequent AWIRS surveys to make further tests of the model and its implications for small business management.

1. Human Resources in Small and Large Firms

Official statistical measurements of small business usually focus on employment as the key variable in classifying firms as small or large. Within Australia, for example, a small business is officially defined as one that is independently owned and managed, and employs less than 100 persons if a manufacturer or less than 20 persons if not (ABS, 1995). A medium size firm employs between 20 and 200 while a large firm generally employs over 200 persons (ABS, 1996). More recently the Australian Bureau of Statistics (ABS, 1998) has identified a micro business as employing fewer than 5 persons.

The growth cycle of the small firm has been of interest to academic researchers for many years. Stienmetz (1969) was one of the first to attempt to identify the growth cycle of a small firm while Churchill and Lewis (1983) and Scott and Bruce (1987) introduced stage models of small business growth. These approaches recognize the growth of a small firm is dependent upon the successful combination of factors inherent in both the owner-manager and the firm itself (Gibb and Davies, 1992). Of critical importance is the owner-manager's ability to plan for growth, something most small businesses lack the resources to undertake (Shuman and Seeger, 1986). As the size of firm increases the requirement for enhanced management skills grows proportionally. A lack of adequate managerial expertise particularly in the area of human resources - can serve to impede the growth of the firm (Scase and Goffee, 1980; Boswell, 1973).

In the large firm human resources continue to be a management problem although sufficient resources usually exist to allow the employment of professional personnel or human resource managers. Human Resource Management (HRM) emerged in the 20th Century in response to the need for an administrative support function to manage the large employee numbers recruited into the industrial organisation. At first referred to simply as 'Personnel Management' the earliest recorded department with such a title was that of the National Cash Register Company in 1901 (Losey, 1998).

Two significant influences upon HRM theory and practice in the period following the Second World War have been Peter F. Drucker and E. Wright Bakke. According to Drucker (1955) the main problems facing the practice of HRM in most large organisations have been - 1) the desire to divide work into constituent physical actions rather than take a holistic view of the worker, and 2) the separation of 'planning from doing'. This reduced the ability of employees to control their own productivity and learn new techniques. For Drucker (1955) the HR Manager or personnel function was little more than a 'welfare worker' or 'file clerk' that spent too much time engaged in 'fire-fighting'. The effectiveness of HRM within the organisation was reduced by this 'technician's' focus. What was required was a more effective 'integration' of the entire worker-work relationship. Placing workers in the appropriate job and empowering them by allowing them control over the planning of their own work were key issues to be addressed.

Bakke (1992) suggests that HRM functions exist to understand, develop, and maintain the effective employment of the people resources of the firm. As such it has no greater or lesser value than any other business function e.g. finance or marketing. Despite almost two decades of management theory that emphasized the need for management to empower and enrich the quality of work life, Bakke (1992) does not consider HRM exists to make employees happy. Its role is to ensure the most efficient and effective use of people's skills and abilities. Rather than seeking to align the interests of worker and organisation, the HRM function should seek to ensure that their interests are at least not incompatible.

2. Human Resource Management as a Business Function in Large Firms

During the 1970s and 1980s the HRM function within large companies broadened its role to that of an advisor, providing senior management with specialist skills relating to the complex legal issues surrounding industrial relations, equal employment opportunity and other legislation. Large centralised HR departments were formed with technically proficient managers. Unfortunately, such departments provided HR Managers with little more power or influence over the strategic direction of the organisation than had been the case during the 1950s and 1960s when Drucker criticized them for being mere 'file clerks' (Fowler, 1994).

While both Drucker and Bakke have helped to shape the current HRM paradigm the social and technological changes witnessed in their lifetimes pose a challenge for the next millennium. The value of the 'human resource' as a source of competitive advantage has continued to increase as the economy shifts from an industrial to a post-industrial model (Barney 1991). This was reflected in a survey of senior business executives of information technology departments in Canada. Ninety per cent of respondents viewed their most important challenge was retaining quality staff (Sibely, 1998).

Major challenges facing the HRM function within the large firm have been the twin forces of technology and globalization (Herzberg, 1987). Key issues facing large firm HR Managers over the past twenty years have been 'downsizing', 'right-sizing', 'out-sourcing' and 'globalization'. Downsizing poses a major challenge to HR Managers from large firms in that they must find a way to reduce employment without losing their best people or lowering the morale of the employees who remain (Grossman, 1996). Downsizing has been widely criticized for its short-term focus and lack of long term sustainability. While it may help to trim costs and lift share prices it can also create a 'hollowed-out' shell with only a superficial impression of success (Haapanieni, 1996).

The process of downsizing has changed the role of the HR Manager from administrator of procedures or specialist adviser, to a more strategic level. Successful downsizing appears to be linked with the capacity of the HR Manager to take a strategic approach to the human resource management process (Cameron, 1994). Cutting the workforce to achieve short-term bottom line improvements is likely to be less successful than a more considered approach.

Whatever the mechanics of successful downsizing the fact remains that the legacy of the 1990s has been a change in the workplace of the large firm.

According to Schroff (1994) some of these changes are: employees no longer view their employment as permanent and expect to remain with an organisation for life, and those with marketable skills remain open to regular shifts to rival employers and there is limited loyalty. However, Schroff (1994) suggests that despite this change many HRM practices within the large firm continue to assume long-term employment.

The established FIRM paradigms of large firms focus on process rather than strategy. They have positioned the FIR Manager as a support function in most organisations undertaking the 'fire fighting' and 'file clerk' roles originally identified by Drucker (1955). One of the most serious challenges facing the FIR Manager in the future will be the threat of the role becoming 'out-sourced' (McKee, 1997). As organisations are downsized the routine HRM functions are becoming increasingly passed onto line managers threatening the very existence of the HRM professional. Unless a new more strategic role is adopted the future of FIR Managers could be bleak (Heneman, Metzler, Thomas, Donohue and Frantzreb, 1998).

To avoid this the HR Manager within the large firm must find a new paradigm less concerned with process and capable of securing a central role within the inner circle of executive management. Achieving this will require the FIR Manager to become responsible for the 'human resource core competency' essential to the sustained competitive advantage of the business (Luthans, Hodgetts and Luthans, 1997).

Schuler (1992) has suggested FIR Managers integrate their role into the business through a '5-P Model' incorporating - philosophy, policies, programs, practices and process. Each of these FIR elements needs to be considered in the broader context of how they interact with the same elements for the entire organisation. This strategic approach to HRM requires the FIR Manager to view their role as one of managing cultural change within their organisation while adding value. To achieve this they need to widen their thinking to incorporate strategies for the recruitment, selection and development of key managers and 'knowledge workers' (Beatty and Ulrich, 1991; Kerr and Ulrich, 1995; Eichinger and Ulrich, 1997).

The competent HR Manager of a large firm remains a functional specialist who requires expertise or knowledge of a range of issues including - industrial relations, selection and placement, compensation and benefits, training and development and succession planning (Burke, 1997). This bewildering array of specialized knowledge continues to grow in response to the internationalisation of the workforce and requirement to meet the needs of ethnic minorities, women, the aged and people with physical or intellectual disabilities (Tung and Miller, 1990; Teasley and Williams, 1991).

3. Human Resource Management as a Business Function in Small Firms

The faster the growth experienced by the small firm the more likely it will experience HR problems. For many fast growth SMEs the main problem is finding and retaining high quality employees (Fraza, 1998). Owners of such growth companies must learn to communicate their vision, mission and values to their employees along with a clear understanding of how the firm is to achieve these goals (Barrier, 1999).

Most small firms face similar HRM problems as their employee numbers grow. Among these issues are - recruitment and selection, staff promotion and retention, wages and salary negotiations, compliance with government employment, tax and insurance regulations, training and development. HR policy can also be used to enhance quality via Total Quality Management (TQM) approaches involving employees (Schuler and Harris, 1991; Andreichuk, 1992). Recruitment and selection within the small firm is frequently less formal than in their larger

counterparts with high proportions of employees either being drawn from the same families or being married couples (*Small Business Reports*, 1993). HRM within family owned and managed small firms can also be made difficult when family members hold key positions within the business or find themselves in dispute with each other or the HR Manager (Brown and Davidson, 1996).

The larger their employee base becomes the more complex are its HR requirements. The challenge is to establish HRM policies and practice within the growing small firm that permit flexibility and do not simply add to bureaucracy (Caudron, 1993). Major HR issues for many small business owners relate to industrial relations and employment legislation. Many countries have laws governing such things as sexual harassment, equal employment opportunities - on racial, religious, disability or gender grounds - and unfair dismissal. Antidiscrimination legislation can prove a major headache for small business owners unless they know their obligations, have formal policies in place to ensure compliance (Ruffino, 1994).

With respect to industrial relations, the smaller the firm the less likely it will be unionized. For example, in Australia 88 per cent of SMEs are non-unionized (ABS, 1998). Trade Unions can have a major impact on the HRM practices of any firm but this can be amplified the smaller the business (Flanagan and Deshpande, 1996).

Unlike their larger counterparts small businesses generally lack formal HR Managers or departments. During its early stages of growth the HRM function within the small firm remain largely the responsibility of the owner-manager who is frequently burdened with administrative tasks (Thatcher, 1996). How large a firm needs to be before it requires a professional HR Manager is debatable, but the likelihood of a firm having such professional FIRM grows along with its employee numbers (Little, 1986). Firms with fewer than 100 employees are probably able to operate effectively without a HR manager, but once they exceed 150 staff such professional management becomes necessary (Oliver, 1997). Once the firm employs over 200 staff the need for a dedicated HR department increases substantially (Caudron, 1993).

Empirical studies of the relationship between small firm performance and human resource management suggest that strong associations exist. Roch and Khan (1985) in a study of 35 small firms over a six-year period found a positive relationship between FIRM and business performance. A study of the HRM practices of 78 small firms found a lack of systematic policies resulting in personnel - related problems (Amba-Rao and Pendse, 1985). Hornsby and Kuratko (1990) surveyed 247 firms with less than 150 employees. They found that size of the payroll had an impact on the level of sophistication of the HRM practices used within the firm. However, the nature of the HR issues that the firms were faced with were the same regardless of their size.

A study by Rowden (1995) of three successful manufacturing firms with less than 200 employees found use of both formal and informal FIRM practices which had a direct influence on the overall success of the firms. Robinson and MacDonald (1995), in a study of 300 SMEs representing all industry sectors, found employee flexibility - as measured by use of casual and part-time workers - to be an important factor in determining competitiveness.

4. Comparisons of HRM in Small and Large Firms

Several studies have attempted to examine the differences between small and large firms in their use of HRM. Deshpande and Golhar (1994) gathered findings from a sample of 100 firms comprising both large (<500 employees) and small (>500 employees) companies. The study found no-significant differences between the two types of firm in terms of their overall HRM practices. However, small firms were found to rate the importance of worker characteristics - e.g. commitment, ability to work in a group, communication skills and self discipline - significantly higher than did larger firms. Smaller firms were also more likely to use job tryouts prior to hiring staff.

Marlow and Patton (1993) undertook a qualitative study involving in-depth interviews with 15 companies in the United Kingdom. They found a much lower level of professional HR practice among the smaller firms as well as lower Trade Unionization. Small firms were also less inclined to view HRM as a strategic tool for enhancing the firm's competitive advantage.

A survey of 991 small firms in Atlantic Canada found significant relationships between size of business and levels of unionization or formalization of HR practice. Most small firms had some form of employee induction and orientation program. However, the more 'progressive' the firm's management culture the more likely it was to use formal HRM practices (Wagar, 1998).

In a further study by Golar and Deshpande (1997) of large and small manufacturing firms in Canada no significant differences were found between the two types of business over the perceived importance of worker characteristics. Internal appointments for job vacancies were the preference in both large and small firms but the larger business was more formal in its recruitment and selection procedures. Large firms were more likely to make use of formal testing and selection panels when recruiting staff.

5. Method and Sampling

The sample used in this paper was obtained from the Federal Government survey of workplace industrial relations, known as the Australian Workplace Industrial, Relations Survey (AWIRS95) conducted in 1995. A sample of 569 private small firms (5-19 employees) and 1202 large firms (20 and over employees) was drawn and the findings for both groups compared.

Differences between the two groups were examined using chi-square tests. All significant findings were at the 0.05 level of confidence. Reliable comparisons were possible as the firms were responding to the same question items in the AWIRS95 survey. Use of these original question items and unit record data from the survey permitted further analysis to be completed.

6. Results

Industrial Action:

As shown in Table 1 large private firms were more likely to face industrial action than small private firms, particularly in relation to strikes and stop-work meetings.

Table 1: Percentage of dimensions for the Private Large and Small Firms

<i>Dimensions</i>	<i>Private Large Firm</i>	<i>Private Small Firm</i>
Strikes	11	1 *
Stop work meetings	16	0 *
Overtime Bans	7	0 *
Go slows	2	0
Picketing	2	0
Work-to-rule	2	0
Other bans	3	0
Management intentionally reduced size of workforce	31	18 *
How was the reduction achieved		
Wastage/attrition	53	24 *
Redeployment	30	1 *
Early retirement	12	2 *
Voluntary redundancy	27	21 *
Compulsory redundancy	52	59 *
Reduction by other method	6	na
Formal Grievance Procedures	69	7 *
Formal Discipline Procedures	92	12 *
*significant at $p < 0.05$		

This may be due to greater union penetration and density of unions within large private firms compared to the smaller organisations (78 per cent compared to 22 per cent had unions and the density was 60 per cent for large firms and 11 per cent for small firms). When intentionally reducing the workforce it seems that the large firms were nearly twice as often involved in such an exercise as small firms were but small firms were slightly more likely to use compulsory redundancy. Large firms could use other less painful processes such as natural wastage/attrition and redeployment because of their size and diversity. It is interesting to note that large firms were more inclined to have formal grievance and discipline procedures.

When consideration was given to the size of the organisation where a person's major job was employee relations it appears that the larger an organization the greater the chance of having such a person $Y^2=221.33$ $P<0.001$. It can be seen from Table 2 that firms who employ in excess of 150 employees are twice as likely to have a person whose major job is employee relations rather than other areas of management. In the firms with 20-50 employees less than one in five had a dedicated employees relations person.

Table 2: Percentage: Major Job Responsibility of Senior Managers by Size of Firms

<i>No of Employees</i>	<i>Employee Relations %</i>	<i>Other areas of Management %</i>	<i>Both %</i>
20-50	17	80	3
51-150	31	65	4
>151	67	32	1

Where industrial action had occurred it seems from Table 3 that managers in large firms were more likely to face a greater variety of issues than their colleagues in the small firms.

Table 3: Issues involving Industrial Action

<i>Item</i>	<i>Large Firm %</i>	<i>Small Firm %</i>
Wages	29	33 *
Overtime	8	-
Leave	5	17 *
Superannuation	3	-
Occupation Health & Safety	11	17 *
Working Conditions	16	-
Dismissals/discipline	9	17 *
Management decision / proposal	9	-
Hours	5	-
Roster	3	-
Negotiation of an agreement	32	-
Redundancies	9	-
* significant at $p<0.05$		

Formal Employee Contracts:

One in eight small firms had written agreements (12 per cent) with a majority of firms having only one agreement (59 per cent). In the rest of the firms the number of agreements for one enterprise ranged up to 12. Nearly half (46 per cent) of large firms had written agreements with again a majority (67 per cent) having one, but the number per organization ranged up to 61. For verbal agreements, 19 per cent of small firms had such agreements compared to 10 per cent for large firms. A majority of written agreements were not registered with the Australian State or Federal body for small firms (71 per cent) whilst approximately one third were not registered for large firms (31 per cent). Those small firms, which had written agreements, had an average coverage of 66 per cent of non managerial workers with 35 per cent having 100 per cent coverage. For large firms the figures were approximately sixty nine per cent of non-managerial but only three per cent had one hundred per cent coverage.

Employee Training Schemes:

Using firms employing 20 or more people it appears that the larger the firm the more likely they are to have a training scheme ($Y^2=54.58$ $p<0.001$). This was also true when consideration was given to the availability of skill audits ($Y^2=68.23$ $p<0.001$), staff appraisal schemes ($Y^2=60.11$ $p<0.001$), semi-autonomous work groups ($Y^2=21.76$ $p<0.001$) and team building ($Y^2=51.71$ $p<0.001$). A similar finding was found for quality control where large firms were more likely to have introduced quality controls such as quality circles ($Y^2=8.98$ $p=0.011$), total quality management ($Y^2=43.34$ $p<0.001$) and just in time methods ($Y^2=15.11$ $p=0.001$).

Use of HR Consultants:

The use consultants was found in the areas of specialized procedures which are becoming main stream, for example, occupational health and safety; equal employment opportunities and skills training. Larger firms tended to use external consultants significantly more than smaller firms ($Y^2=19.60$ $p<0.001$; $Y^2=30.83$ $p<0.001$; $Y^2=21.95$ $p<0.001$ respectively). In the more esoteric areas that have occurred in the Australian human resource management arena such as agreement negotiation there appears to be no difference between small and large firms in their use of external consultants.

Measurement of Labour Productivity:

Larger firms were also more likely to have procedures which measure labour productivity ($Y^2=34.45$ $p<0.001$). However, there is no significant difference between size of an organization and measuring the level of productivity on an individual basis but there is on measuring productivity of work groups ($Y^2=22.38$ $p<0.001$) and departments or section ($Y^2=83.12$ $p<0.001$) where the large firms were far more likely to conduct such measures.

7. Conclusions

It seems that the need for a dedicated human resource manager becomes necessary as the organization grows. Such a person appears to be required because of the more formal HRM procedures. This could be caused by the need to deal with larger numbers of people but it may also be due to the greater possibility of unions being present in the larger firms. It seems that larger firms are more likely to be unionized and have a higher density than did smaller firms. Further, unions may create a situation where formal HRM procedures might be required.

It seems that larger firms are more likely to use external consultants to help with their human resource management programs meaning that the availability of resources enables large firms to be at the forefront of progressive changes in personal management.

Thus large firms are more likely than their colleagues in smaller organizations to use professional human resource management outside consultants and to measure labour productivity of their employees. Such differences in the use of HR within small and large firms are consistent with other studies. Large firms are facing the challenges of an enhanced competitive environment and the need for HR managers to become more strategic in their thinking. A key issue facing the owner-manager of a small firm is when to introduce formal HRM procedures and appoint a professional HR manager. It is important for small firms to look ahead and consider the introduction of formal HR procedures as part of their long term strategic planning. Failure to address such issues may result in otherwise avoidable personnel problems emerging.

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A GAME-THEORETIC APPROACH TO STRATEGIC DECISION MAKING IN INTERGENERATIONAL SUCCESSIONS OF SMALL AND MEDIUM SIZED ENTERPRISES

Per-Olof Bjuggren and Lars-Göran Sund

Abstract

This paper deals with intergenerational successions of SMEs. An entrepreneur faces an unavoidable succession dilemma. He has to make strategic decisions on both a personal succession and an economic succession. Concerning the latter, his main alternatives are to sell the company to someone outside the family or to make arrangements for an interfamily succession. In case of an interfamily succession the alternatives are many, i.e. through a gift of shares or through a will. The personal succession has also to be accounted for. Whether the next generation is able and willing to take over the responsibility for the management or not is an example of the problems that have to be solved. A game-theoretic approach to the solution of these intergenerational successions problems will be used.

1. Introduction

In all family firms the problem of succession has to be faced at some point. When the time comes, the decision to let a younger generation of family member take over or sell to new non-family owners has to be made. In this paper we will concentrate on successions within the family. Such an intergenerational succession can be initiated, planned and carried out within the life time of the entrepreneur or left to be decided at the death of the entrepreneur. To plan and carry out a succession is a complex matter. The choice of succession mode will be an outcome of an interaction process between generations where the law system plays an important role in the sense that taxes and other laws determine the transactions costs of the different succession alternatives. The purpose of this paper is to illustrate the nature of this intergenerational interaction problem and discuss how a specific law system, the Swedish law system, influences the choice of succession alternative.

The study is structured so that it begins with the statistics about successions of firms in Section 2. In the same section the Swedish legal system and taxes that provide the institutional framework for succession in Sweden are described. Section 3 presents a game theoretic approach to the problem of succession. An evaluation of how the Swedish laws and tax system influences the possibilities to plan and carry out intergenerational successions within the family and some concluding remarks are offered in Section 4.

2. The Statistical Picture and the Swedish Institutional Framework

2.1 A Statistical Picture

In 1992 there were around 16 million active enterprises in the non-agricultural market sectors of the European Union and 99,8 % of these enterprises were SMEs employing less than 250 people. The share of SMEs of total employment was almost 70 %.¹ SMEs have thus the biggest potential of creating new jobs.

A study from the United Kingdom showed that only 24 % of family business were transferred to the second generation and that merely 14 % survive to the third generation.² Of all petitions for bankruptcy in the Community an estimated 10 % are filed as a result of badly managed successions. These threaten at least 30.000 enterprises and 300.000 jobs every year.³ It has been estimated that about 6,3 million jobs in Europe are threatened in the near future because of poor preparations for the transmission of businesses.⁴

On the other, hand research results seem to show that if a business survives to the second generation the probability that it will also survive the following successions increases substantially.⁵ Of the less than one third of the family business that were included in a study and which survived the transition to the second generation, approximately 50 % survived from the second to the third generation and more than 70 % of these firms were passed on to the fourth generation. The higher degree of survival can, among other reasons, be a result of the experiences of the first succession, e.g. that the next generation should work in the company and that a succession should be initiated, planned and carried through in due time.⁶

Studies within the Community show that a majority of the entrepreneurs have not taken the necessary steps to plan and carry out coming successions. As an example, a study of 35 family businesses in England shows that only about 25 % had chosen a successor to the present CEO.⁷ Around one third of the owners of small companies are over fifty years of age.⁸

It therefore seems urgent to find measures to make successions more efficient.

It seems remarkable that successions are not planned in due time since many studies shows that most entrepreneurs wish the ownership and management of the family business to remain in the family.⁹ This is further emphasized by the fact that succession of a family company can, fully implemented, demand three to five years.¹⁰ A shift in generation of owners and management has to be initiated, planned and carried out, and it often necessitates a change in company culture. All will demand time.

The unwillingness or incapability to initiate and plan the inevitable succession of the family business can be a result of the entrepreneur being too busy running and controlling the firm.¹¹ Also fears of losing a central role in the family can result in an owner postponing the unavoidable.¹² He or she can further develop excuses of various kinds, more or less connected to feelings of rivalry and jealousy, and so on, towards potential successors, to avoid retiring.¹³ Yet another reason for postponing the succession is that an entrepreneur associates retirement with his or her own mortality.¹⁴ Though succession of ownership can be mainly a question of incentive from the owner, it seems clear, since most entrepreneurs do not carry it out in due time, that other factors, such as those mentioned, are dominating.

One recent study of SMEs shows that an average of 25 % of EU-enterprises expect a change in ownerstructure within 3-5 years. Another 15 % expect a change after six years or more.¹⁵ Of these companies 32 % are expected to be sold to a third party and 24 % to be handed over to the next generation of family members. Intergenerational succession of the family company is in Sweden expected to occur in 24 % of the cases, while the same figure for Germany is 60 %. A staggering difference, to which we today have no conclusive explanation.

To what extent are then family members ready to take over the business? One study, among university students in different countries, shows a relatively low degree of willingness to take part in the family business.¹⁶ Most (66 %) expressed a less than 50 % possibility that they will join the company. Among the European participants 75 % of the males and 50 % of the females expressed less than 50 % chance that they would take part in the family business. Most of those that wished to join the company wanted to become president/CEO or manager. Participants that did not want to take part in the company gave many reasons. One of the most important was that they wanted to start

their own businesses. Also other studies show approximately the same lack of interest among children to join their parent's business.¹⁷

Research on transfer of ownership in companies shows that there are four main problems that hamper an efficient change of ownership. The first difficulty is the valuation of the enterprise. Secondly financing the take-over can be a bottleneck. The legal dispositions are the third problem. Taking account of different legal arrangements, e.g. inheritance, company and taxation law, is crucial when preparing a transmission. Last, but not least, the personal and emotional aspects can give rise to various difficulties.¹⁸

The European Commission regards only being aware of the main problems concerning succession as insufficient. It recommends a number of solutions in the legal and fiscal field. In 1994 the Commission issued a non-binding recommendation, since the member states have very varying legal and other conditions of importance for transfer of enterprises.¹⁹

The recommendation contains 10 articles. A few of them are briefly dealt with in the following:

Businessmen should be provided with appropriate instruments which will allow the best preparation of transfer. To this end, the Commission requests the Member States (art. 4):

a) "when taxing any transactions designed to separate management powers and ownership, (to) recognize the economic need for such legal operations in those cases where the objective is to facilitate transfers and, if necessary, take steps to authorize them and promote them;"

b) "independently of the obligations stemming from Community law, (to) apply the principle of fiscal neutrality to operations for the preparation of transfers such as transfers of assets, mergers, divisions and exchanges of shares; the principle of fiscal neutrality shall also apply to stamp duties, registration fees and other similar taxes."

The survival of the enterprise within a family should be ensured through appropriate fiscal treatment of succession and gifts. Member states are invited to (art. 6):

c) "reduce the taxes on assets exclusively used for the business in the case of transfer by gift or succession, including inheritance tax, gift tax and registration fees, provided that the business is genuinely kept as a going concern for a minimum period;

d) "offer the heirs the possibility of spreading or deferring payment of the gift or inheritance taxes, provided that they keep the business as a going concern, and shall grant interest exemptions;"

e) "ensure that the tax assessment of the business can take account of how the value of the business changes some months after the death of the owner."

When a transfer cannot be made in a family, the businessman should be encouraged to consider a transfer before death to third parties. Member states are invited to:

f) "waive taxation on at least part of the revenue from the added value or capital gains arising on the assets of a business in the event of sale, in particular when the businessman has reached the age of 55; provide tax incentives for the reinvestment of the profits made on the sale of a business in another enterprise not quoted on the stock exchange and actively engaged in the production or sale of goods and services;

The recommendation reflects the previously mentioned problems concerning transfer of ownership in companies. An evaluation has been made concerning which steps that has been taken by the Members in accordance with the recommendation. Some improvements have been made, e.g. measures taken aiming to reduce inheritance and gift taxes.

The studies mentioned above and the EU-recommendation raise many questions. Why do not more entrepreneurs carry through a succession during their lifetime and why does not a qualified majority of children wish to take over their parents businesses? How do we explain the variation between the disposition of entrepreneurs in different countries to hand over the company? Why does not each country make the various ways of carrying through a succession as easy as possible, e.g. concerning legal dispositions and financing take-overs?

As far as we know, there are, today, no coherent theories that can guide us. This second paper is a continuation on a journey which we hope will lead to a new theory that can connect and explain the disposition of the older generation to hand over the family business, and the propensity of the younger generation to take over.

2.2 The Swedish Institutional Framework

When an unmarried entrepreneur dies intestate, the estate is inherited by the children, or in the case of their death, by the grandchildren. If the entrepreneur has no descendants the parents or, if one of them is dead, the siblings or, if any of them is deceased, the nephews and nieces will inherit the estate.

The total inheritance consists of the net fortune, including the value of the shares in the family firm, less inheritance tax. The total value and the property is distributed among the heirs according to agreement or, if they cannot agree, in accordance with the Inheritance Act. If the heirs cannot agree, e.g. on distribution of the property, a court can appoint a person to divide the property.

If the deceased was married, the first step is a division of the matrimonial property. According to the main rule the surviving spouse takes half of the total net value of the common property, including the shares in the family firm. The property is distributed according to agreement between the surviving spouse and the heirs. The latter has a right of priority to the property which was owned by the deceased spouse, e.g. the family company. If they cannot agree, a court can appoint a person to distribute the property.

According to the main inheritance rule, the surviving spouse inherits all the estate (after division of the matrimonial property), if the deceased spouse left no will. The children born into the relationship inherit from their deceased parent only after the death of the remaining parent, if the latter does not waive his or her right to inherit. Children of the first deceased spouse, that are not children of the surviving spouse, have, however, priority. They inherit their share from their biological parent, thus partially excluding the right to the inheritance for the surviving spouse (step parent).

The first deceased spouse could have made a will totally disinheriting the surviving spouse.

For small estates there is, however, one exception, which is of no importance for this paper. He or she cannot make a will totally disinheriting the descendants. A child can always claim his or her lawful portion, which is half of what the child would have inherited without the will.

There is no inheritance tax on the surviving spouse's share of the matrimonial property. The remaining property (the estate of the deceased spouse) is in most cases fictitiously distributed by a court according to the Inheritance Act and the inheritance tax is calculated on each share. A basic amount can be inherited without tax. For a surviving spouse 280.000 SKR (around 31.000 Euro) and for a descendant 70.000 SKR (approximately 8.000 Euro).

The property in an estate is valued according to certain rules in the Inheritance Taxation Act. Shares in small and medium sized family-owned and unlisted companies are mostly valued in accordance with a certain method ("substance value method"), aiming to reach a market value, and the result is reduced to 30 %. This is done in order to facilitate succession of these firms.

Insurances that are owned by the entrepreneur and paid out in a lump sum upon his or her death are regarded as an inheritance. A relatively high amount can be inherited without taxation.

Example: The man A is married to B. They have three children C, D and E. A has also a son F from a previous relationship. A is an entrepreneur and sole owner of a company with a "substance value" of 24 million SKR (around 2.7 million Euro). The total matrimonial property has an estimated value of 8 million SKR. When A dies the first step is to divide the matrimonial property, including the company. B's share amounts to $(24+8):2=16$ million SKR. The other half becomes the value of the estate of the deceased A, which will be the subject of inheritance. If B wishes to have her whole share and if she first takes the total matrimonial property, she will as a result of the division of that property have a claim on shares in the company up to a value of 8 million SKR. Further she can, due to inheritance, claim shares up to a value of $(16:4 \times 3 =)$ 12 million SKR. If the children (C, D and E) want to continue the business as the only owners they will have to compensate B with money. Further, F has a right to inherit from A before B. F's share amounts to $16:4=4$ million SKR. To buy him out will be costly for C, D and E. All together they will have to pay $8+4=12$ million SKR, if B waives her right of inheritance (12 MSKR). Their only reasonable chance (if any) to take over the company is thus to convince B to waive her right to inherit from A.

If the optional rules governing the result when the owner dies without having planned and carried out a succession are not acceptable, the owner and the family will have to initiate a succession process. If the owner is not willing to reveal who is going to take over the business, he can make a will. The substance value method is used for the valuation of the shares and the result is lowered to 30 per cent. The taxation will thus be the same as in the case of intestate succession. A will could also be seen as a way of waiting with the succession, which gives raise to certain problems. See further in the next chapter.

If the owner is willing to reveal who is going to be the new owner, he has several options: A gift of the shares to somebody in the next generation will be taxed the same way as on testate or intestate succession. However three legal conditions have to be fulfilled to gain a lower taxation: All the shares have to be given at the same time and without conditions. Further the new owner has to keep the ownership (a majority) of the shares at least for five years. The conditions are supposed to hamper tax planning. There is thus in large a fiscal neutrality when it concerns inheritance, acquisitions by a will and a gift of shares in a family company, however with some conditions in case of a gift. Other methods of carrying through a succession do not show any fiscal neutrality.

Usually a sale of the shares to someone in the next generation is not possible, at least not if the purchaser has to take loans to finance the shares. The company profits will be taxed at a rate of 28 per cent and a dividend is taxed at 30 per cent, without deduction due to the first taxation. Hence there is a double taxation on company profits. If the new owner chooses to take out a salary to pay the loans it will be taxed at 57 per cent (above a certain lower level), which is deductible for the company. However it has to pay an additional 30 per cent (on the salary) in social costs. The double taxation is avoided by selling the family company to a (perhaps new) business owned by the person in

the next generation who is to become the new entrepreneur. This way the company profits are taxed only once (28 per cent) before the loans can be paid. The interest is deductible. Within the concern the affiliated company (the former family business) can give dividends to the parent company in order to finance mortgages. An alternative to avoid the double taxation is to sell the assets of the family company to a new business, established by the older generation, then sell the remainder (profits) of the family company to a third party and finally give the new business to the next generation. By this procedure the substance value can also be considerably lowered, as well as the gift taxation.

If the substance value is high (a million Euro or more), depending on the circumstances, the above mentioned alternatives may be difficult to use due to high taxation. The only reasonable alternative may prove to be a succession by starting a trust or similar. The main advantage of this method is that the succession problem can be solved once and for all. The (family) trust will be the owner of the company. There will however be gift taxes on the transfer of the assets to the trust and the beneficiaries will have to pay taxes on the dividends.

When an entrepreneur has two or more children who wish to take over the ownership the situation will become even more complicated. If the family business can be split up in two or more independent businesses, there are legal possibilities to sell the assets for a reasonable price to companies belonging to the children.

If the entrepreneur decides to hand over the company to the next generation, he/she has thus to choose between several options. It seems like these options are mainly a question of financing the handover and avoiding excessive costs, not least taxes. On the other hand, if the entrepreneur decides to wait with the succession, a situation occurs, which in our opinion, is best analysed using game theory. See next chapter.

3. A Game-Theoretic Approach

In an earlier paper we developed the idea that the prime rationale for intergenerational succession within the family is advantages due to idiosyncratic knowledge of a family character (Bjuggren & Sund, 1998). Family idiosyncratic knowledge is acquired in a learning by watching and doing fashion. Growing up with a family business gives an inside position that might give specific knowledge of how to run the firm in a profitable way.²⁰

We also believe that a family member, compared with an outside owner, has a high degree of loyalty to the family, the company and the local community which is beneficial for business. An underlying assumption in the rest of this section is that there is a form of family idiosyncratic knowledge and loyalty that makes intergenerational succession within the family potentially more profitable than other types of successions. In a perfect economy in the sense of no transaction costs, intergenerational successions will take place in any case whenever there are advantages of family idiosyncratic knowledge.

However, in the real world there are positive transaction costs. What matters is that the institutions governing human behaviour keep the transaction costs at the lowest possible level.

Of interest in intergenerational successions are formal institutions such as laws concerning income, tax, property, contract and inheritance laws. It will here be argued that these laws can sometimes prevent beneficial intergenerational transfers of ownership.

A special situation to consider is if there are optimal succession ages of the entrepreneur and a son/daughter in the younger generation. It could be that ages can be found where the productivity of the younger generation just surpasses the productivity of the older generation. The question to be addressed in this case is also if there are because of the above mentioned laws excessively high transaction costs that prevent such timely succession? If the

younger generation is not given the opportunity to take over while they are still young, the chance of an efficient intergenerational succession might be lost. They might instead choose to start their own separate business or become a salaried employee, as the statistics indicate.

Consequently, there is at the microlevel a problem of intergenerational co-ordination. The character of this co-ordination problem is dependent on the legal institutional framework within which intergenerational succession decisions have to be made. How is this legal institutional framework to be constructed and in what different ways can an entrepreneurial family be assisted so that beneficial intergenerational transfers of family ownership of small and medium sized firms take place? An analysis of these problems has to start by a description of the strategic choices open to the entrepreneur and the successor and how they interact. Game theory offers a possible way to model these intergenerational succession problems.²¹

The assumptions of our game-theoretic model are existence of family idiosyncratic knowledge and loyalty and a younger generation consisting of two or more siblings of which only one possesses the right idiosyncratic knowledge for running the family firm in the most profitable way.

The two players in the game are the present entrepreneur belonging to the old generation (player A) and one son/daughter of the younger generation (player B) who has the best qualities for future ownership and management of the firm. The presumption is that in a perfect world without transaction costs A and B will reach an agreement of a succession of the firm exactly at the optimal time with respect to the development of entrepreneurial productivity of the two parties. This optimal time implies normally a succession of the firm well before the death of A.

The sequential moves of A and B are depicted in Figure 1 (omitted). The game starts with the decision of A to either make an agreement of a predeath transfer of the firm to B or not make such an agreement. If an agreement of a pre-death transfer is reached the game is over.

The payoffs of such an agreement will depend on the increase in firm value attributed to idiosyncratic knowledge and loyalty of the next generation entrepreneur (S) and the transaction costs associated with the agreement represented by taxes (Tx) and different preand postcontractual costs (Tr) as costs of negotiation terms drawing up a contract and enforcing the contract. The surplus ($S - Tx - Tr$) will be divided amongst A and B according to some formula. For the sake of simplicity it is here assumed that A and B get fifty percent each of the surplus.

If no agreement is made about predeath handover of the firm, B has to decide about his/her future. A choice has to be made between to wait and be prepared to take over ownership and management of the firm at the death of A or give up these plans (i.e. not wait) and instead invest in a career as a salaried employee or start a new firm. The payoff of B for not waiting is what he/she would receive in an alternative career. The payoff of an alternative career is set equal to zero (as it could be regarded as an opportunity cost when calculating the increase in firm value due to B:s idiosyncratic knowledge).

Given that B is prepared to wait, A has two alternative actions to choose between. These two alternative actions is (1) to draw up a will appointing B as heir to the firm or (2) not announce a will. The incentives for not drawing up a will might be that it is for equity or other reasons. It is a very sensitive matter to appoint in advance one of the siblings as the one most suited for taking over the ownership and management of the family firm.

There might thus be a negative factor (Env) to consider. Besides this there are also costs associated with drawing up a will (Tr_w). On the other hand, by drawing up a will A can be made more sure of the firm remaining in the family after his/her death and that B's idiosyncratic knowledge will give a positive payoff. Such reassurance might have a positive value (Alt). Consequently, the payoff of A of announcing a will is $(Alt - Tr_w - Env)$. The payoffs to B of an announced will are the present values of future increased firm value due to B's idiosyncratic knowledge (S_w) minus the present values of future taxes (T_{x_w}), i.e. the payoff to B is $(S_w - T_{x_w})$.²²

The lack of an announced will can invite rent-seeking activities (Cabrillo, 1999). The possible heirs might think that the likelihood of inheriting the family firm will be increased if they engage in various activities that make themselves look better than their brothers/sisters. Rent-seeking activities are costly.

The payoff will in such a case (given that B really inherit the family firm) be decreased with an amount equal to resources spent on rent-seeking activities (RS_B), i.e. the payoff to B will thus be $p_R(S_w - T_{x_w} - RS_B)$ where p_R is the probability of inheritance with rent-seeking activities.

On the part of the parent A the rent-seeking activities might constitute a positive payoff (RS_A). The inheritance law sometimes puts a limit on the maximum part of the wealth of the parents that can be left to one of several siblings. Such limits can reduce incentives to rent seeking activities.

If B restrains from rent-seeking activities the probability of inheritance will be p_{NR} , where $p_{NR} < p_R$. The payoff to B will thus in this case be $p_{NR}(S_w - T_{x_w})$. The payoff to A is set equal to zero.

The game is solved through backward induction. Beginning with the last stage in the game tree, rentseeking is chosen if $p_R(S_w - T_{x_w} - RS_B) > p_{NR}(S_w - T_{x_w})$. Obviously B's perception of how much the probability is changed through rent-seeking activities will be critical for his/her choice of action. The preceding decision of announcing the will or not is dependent on A's perception of how large the payoff of a clear testament $(Alt - Tr_w - Env)$ is relative either 0 or RS_A depending on the action B will choose. Assume that is rational (profitable) for B to choose rent-seeking in the last stage. A will then choose not to announce the will if $RS_A > (Alt - Tr_w - Env)$.

Going further backwards in the game, B's decision about to wait or not to wait is based on B's perception of what A is going to decide about announcing a will or not announcing a will.

Assume that not announcing a will is the most profitable strategy for the subgame starting at the second decision node and that B given no announced will chooses to engage in rentseeking activities. In such a case B's decision at the second node will be based on a comparison of $p_R(S_w - T_{x_w} - RS_B)$ and 0. If $p_R(S_w - T_{x_w} - RS_B) > 0$ B's best choice is to wait and be prepared to take over the firm at the death of the parent.

Finally A's choice of action at the start of the game (at the first node) is dependent on what can be gained by handing over respectively not handing over the firm before death. Assume as before that further down in the game not announcing the will is an optimal strategy for A and that B will choose to wait and to engage in rent-seeking activities. In such a case A's choice between handing over or not handing over the firm will be based on a comparison of the payoffs RS_A and $1/2(S - T_x - Tr)$. If RS_A is larger than $1/2(S - T_x - Tr)$ the action of not handing over will be chosen. Critical for the decision outcome is how large S is respectively how high the transaction costs associated with an agreement to hand over are (i.e. how high T_x and Tr are).

A numerical example with $RS_A=3$, $(Alt - Tr_w - Env)=2$, $p_R(S_w - T_{x_w} - RS_B)=2$, $p_{NR}(S_w - T_{x_w})=1$, $(S_w - T_{x_w})=3$ and $1/2(S - T_x - Tr)=2$ will produce a result of the type just described (see Figure 2--omitted).

The upshot of this example is that it is important for the welfare of the society to facilitate a pre-death succession by providing a legal system that keep the transaction costs as low as possible.²³ It is also important to facilitate for the legal system to simplify matters for the owner of a family company who wants to plan in good time for the succession of the family firm.

4. An Evaluation of the Swedish Law System and Some Concluding Remarks

The complexity facing the owner and the family when they wish to plan and carry out an intergenerational succession within the family is overwhelming. Personal as well as economic factors can be difficult obstacles. The older generation has to be willing to hand over the business and the younger generation has to be willing to take over. If the owner is not willing to reveal who is going to be the new entrepreneur, he can make a will. If he is willing to reveal the successor, he can choose to do nothing, and let the optional inheritance rules and agreements between the issue be decisive of the outcome. If the owner does not accept this uncertainty and costs due to potential rent-seeking behaviour etc, he and the family have several options planning the succession.

All methods of planning and carrying through an intergenerational succession within the family, as presented in chapter 2.2, during the lifetime of the owner will be costly. Taxes have to be paid. Engaging consultants to plan the succession and to avoid excessiv taxes will be expensive. The whole procedure will take time at an efficiency cost. Further the procedure will result in uncertainty concerning the ownership and management, which can hamper business relations.

The taxes for handing over the company on intestate taxation should be considerably lowered or abolished. The same goes for testate succession and gifts. Taxes has anyway to be paid during the lifetime of the owner and a successful new owner will continue to pay, which a whole society will all benefit from.

To make it possible to sell the company to the next generation the double taxation should be abolished, at least when a sale is done in relation to a succession. A sale will give money to the older generation to secure their standard of living and make it possible to compensate siblings that will not take over the ownership.

There are several good reasons supporting the above mentioned changes of the tax law system etc. As pointed out above the owner and the family are anyway facing several difficulties in the succesion process. Why make it more complex, since we are all dependent on successful family businesses? They create jobs and income for the community. Since most intergenerational successions do not seem to be initiated, planned and carried out during the lifetime of the entrepreneur, it is urgent to adopt rules that make the complex procedure as easy as possible.

Further, as has been pointed out in a previous paper²⁴, it is important to enhance the possibilities for the children of the entrepreneur to take over the family business, since (on average) they can be most expected to show loyalty to the family, the company and the local community and this by putting an emphasize on successfully running the family firm. This complex and, for business, important loyalty cannot be expected from an outsider if the firm is sold to a third party. Showing loyalty to other persons, other companies and other communities as well as rewarding themselves with excessive wages are not unfamiliar phenomena. Further the importance of idiosyncratic knowledge, created within the family and often within the local community in interaction with other (family) businesses, should be stressed. This knowledge can be most easily given to the next generation within a family. To us there are thus several good reasons for promoting intergenerational successions within the family.

A third party can as a potential new owner, however, more easily see business alternatives or be more able to make necessary, but unpopular, cutbacks, as well as be an important person in promoting a coming succession. These qualities can be acquired by the company by hiring a third party as a member of the board, not as an owner or a manager. This will enable the family to keep the loyalty qualities within the family.

The above described game theory on succession further emphasises the importance of easy ways of carrying through a succession. If an entrepreneur hesitates in initiating and planning the handover, due to excessive taxes and other obstacles hampering the possibilities to carry through a succession within the family, it will unavoidably lead to difficult situations when the next generation has to choose between starting their own businesses or becoming an employee and perhaps taking part in wasteful rent-seeking behaviour. All causes costs and uncertainty, concerning who will own and manage the business etc, which in turn will lead to unnecessary threats to the employees and risk of undue bankruptcy.

At least the above mentioned EU-recommendation should be consistently carried through. It would make succession easier for owners and new family owners of the company.

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¹ European Commission, Enterprises in Europe 1996 pp 8 and 26-27 and European Commission, Communication, Background to 94/C 400/01 p 2 . Compare The European Observatory for SMEs 1996 pp 183-193.

² The study was carried out in 1989 by Stoy Hayward Consulting in association with the London Business School and is referred to in European Commission, Communication, Background to 94/C 400/01 p 2 . For references to other studies confirming the result, see Handler (1994, pp. 147-148).

³ European Commission, Communication 94/C 400/01 p 1.

⁴ The European Observatory for SMEs (1996 p. 186).

⁵ Greenwald 1993 and 1994 (Reference in Schulze and Dino 1996 pp 191 and 206.)

⁶ See further by Schulze and Dino (1996, pp. 187-207).

⁷ Kirby and Lee (1996, pp. 75-85). For further examples, see references in The European Observatory for SMEs 1996 pp 184-185 and European Commission, Communication, Background to 94/C 400/01 p 3.

⁸ The European Observatory for SMEs 1996 pp 184 -185.

⁹ Kirby and Lee in footnote 7. For further examples of studies, see The European Observatory for SMEs (1996, p. 187). Compare The European Forum on the Transfer of Business 24/3/97 pp. 6-7.

¹⁰ Compare Deegan (1986, pp. 19-23).

¹¹ Poe (1980, pp. 23-27).

¹² Lansberg (1991, p. 103).

¹³ Jacobs (1986, p. 26).

¹⁴ See Poe, Lansberg and Jacobs in footnotes 11-13. Compare Seymour (1993, p. 267). For several more examples in research of reasons for entrepreneurs to resist handing over the ownership and the management of the family firm, see Handler (1994, pp. 137-139 and 145-147).

¹⁵ Grant Thornton International Business Strategies Ltd 1996.

¹⁶ Stavrou and Winslow (1996, pp, 253-273).

¹⁷ Referred in The European Observatory for SMEs (1996, p. 187). See also Handler (1994, pp. 140-143).

¹⁸ See further in The European Observatory for SMEs (1996, pp. 188-189).

¹⁹ European Commission, recommendation 1994 O.J.n L 385. Compare European Commission, Communication 94/C 400/01 p 2. Compare also The European Observatory for SMEs, 1996 pp 189-193 and The European Forum on the Transfer of Business (24.3.1997) pp. 1-7.

²⁰ Knowledge idiosyncrasy is related to Oliver E. Williamson's concept asset specificity (see eg. Williamson 1996).

²¹ An introduction to game theory is offered by Rasmusen (1989).

²² Since a will by A always can be altered during his lifetime, an alternative could seem to be an oral or written promise to hand over the business to B. It will however not be binding if A dies without additional arrangements. Furthermore, siblings to B might in the future demand their lawful portion. In that case B might, depending on the value of the business and other property owned by A, have to pay his/her siblings some money for full ownership of the firm.

²³ The objective of having neutral taxes (i.e. taxes that do not distort the allocation of resources between sectors in the economy) is of course also important. The neutrality of the tax system will thus be a constraint.

²⁴ See Bjuggren and Sund (1998).

WOMEN ENTREPRENEURSHIP IN THE PORTUGUESE RURAL CONTEXT: FROM INSTITUTIONAL SUPPORT TO ENTREPRENEURIAL REALITY

Anabela Dinis

Abstract

The strong rurality of Portugal and the significant weight of women in the primary sector of economy make Portuguese women particularly vulnerable to the decline of agricultural activities. Thus, the creation of alternative sources of income appears as an essential aspect of economical and social integration of women and of the rural regions itself. Since 1993 women have benefit from ESF regionalized interventions trough programs, directed towards specific segments of population (e.g. long term unemployed, young people) and, more specifically, through the European program NOW. The purpose of this paper is to confront the real mechanisms of creation and development of women's business in rural areas with the available institutional mechanisms. The research has an exploratory character and is based in case studies. Data was collected through personal interviews with women who found and manage their own business in the handicraft sector. Results shows that in several cases institutional support was fundamental for the creation of the business but not so important for the its development. Also the primary groups (family and friends) are crucial to create and develop the business. Lack of information and formation are the principal obstacles to demand institutional support.

1. Introduction

The entry of the Maastricht treaty gave a new impulse to the European Social Policy. The sustainable development of European economies is nowadays one of the main concerns of the European Union, already expressed in the "Green" and "White" book of the Commission (1993 and 1994). Employment as factor of social integration, equality of opportunities and the demands of economy - competitiveness and job creation - are pointed as objectives in order to create a more fair and prosperous society. However reality is still another. The main labor market indicators show that unemployment is still more significative in the feminine sector in almost all the member states (Eurostat 1992, Comissión Européenne 1997, Comissão Europeia 1997). When women intend to create their own employment they cumulate the structural difficulties of very small enterprises with specific disadvantages of their feminine condition. In general women can not devote as much time and energy to the business as men because women maintain the weigh of domestic activities. In regions with specific problems - rural areas, ill-favored urban zones, less developed regions or in industrial reconversion - the inequalities are still more marked. The isolation, the under-qualification, the cumulation of social and economic difficulties are propitious to reinforce marginalization.

If, in one hand, the importance of the micro and small firms sector for regional development is largely recognized (ENSR 1995, Comissão Europeia 1993, 1994, Gibb 1993, Clay et al. 1996, Gibson 1997), in the other hand, woman in pour families, and not so much her husband, is the one who is more committed to improve their life conditions (Harper, 1996). Thus, the development of women entrepreneurship deserves a special attention. In fact, it can constitute an effective way to fight against long term unemployment among women and a to generate a (more) effective local development.

In Portugal, the primary sector is still very important when comparing with the European mean (see table1) and the position of women in this sector is still very important. These two facts make evident that women are especially affected by the decline of agricultural activities. Thus, the creation of alternative activities and sources of income for these women is fundamental.

Table 1 - Some job indicators (1997)

<i>Employed Population by sector (%)</i>	Portugal			Europe 15		
	Total	Distribution by gender		Total	Distribution by gender	
		Women	Men		Women	Men
Primary	13,3%	15,2%	11,7%	5%	4%	5,6%
Secondary	31,0%	20,3%	39,8%	29,4%	15,9%	39,2%
Tertiary	55,7%	64,5%	48,5%	65,6%	80,1%	55,1%
Source: Eurostat 1998						

Moreover, in a moment that the second Comunitary frame is ending it is important to proceed to the evaluation of national and European intervention in order to feedback to new developments concerning this matters.

2. Objective and research questions

The aim of this research is to understand the real mechanisms for business creation and development used by women in rural areas in contrast with the institutional mechanisms created for that purpose. More specifically it is intended to answer to the following questions:

Q1: Do Portuguese rural women entrepreneurs make use of institutional support to create and develop their businesses?

Q2: If yes, why and how do they make use of institutional support?

Q3: If yes, how important and effective is the institutional support?

Q4: If not, why do they not make use of institutional support?

Q5: In any case, what other support do they use to create and develop their business and how important it is?

Q6: Concerning both, those who use and those who do not use institutional support, how satisfied are they with the performance of their business?

These questions can be translated in the following objectives, respectively:

1. Access about the use of institutional support by Portuguese rural women to create and develop their business.
2. Understand what factors contribute for the use of institutional support.
3. Identify the importance and the main difficulties when working with institutional support
4. Understand what are the main barriers for the use the institutional support
5. Identify what other factors are important to create and develop women rural business
6. Understand what are the criteria of success of women rural entrepreneurs and access about differences in the performance of the business between supported and not supported businesses.

From the theoretical perspective this research allows to better know the (female) entrepreneurial process, particularly in rural contexts. From the practical point of view, it furnishes information to politicians and practitioners about the effectiveness of the actual public policy towards female entrepreneurship in rural settings. Finally, the divulgation of female business experiences could contribute to the change of the image of the traditional role of women in the business world, and encourage them to launch their own venture.

2. Literature review and theoretical framework

The theme of institutional support to Small and Medium enterprises has been treated in literature through several perspectives which reflect different theoretical frameworks. For instance, in *economic theory*, institutional support is approached as a way to promote regional development; *institutional theories* are concerned about the role of support institutions (public or private) in the promotion of economic and social actors; in *entrepreneurship*, institutional support is seen as a way to achieve supplementary resources for the creation and development of small businesses.

All approaches show diverse, but complementary, aspects of the same phenomena and thus it makes sense to consider three key factors in the design of support policies (Gibb 1993): (1) The management of the general environment (concern of regional economy); (2) The management of the support entities and assistance activities (concern of institutional theories) (3) The small firms management/development (concern of entrepreneurship theory). Similarly, Haskins and Gibb (1987) and Haskins et al. (1989) distinguish several elements to consider in the institutional support analysis: (i) policies, (ii) institutions and forms of assistance and (iii) the target group of such support. According this, the analysis can be considered at two levels: the political level - the level of strategic formulation (policies); and the executive level - the level of strategic implementation.

Meanwhile the political level correspond to an abstract and generic definition, the implementation level has place in a specific socio-economic- cultural arena where supply of assistance and demand of support meet. (See figure 1--omitted).

According to several studies (e.g. Martin 1988 in Marlow 1997, Tigges y Green 1994, Acharya 1998) women entrepreneurs often do not receive the same levels of support of their male counterparts. Acharya (1998) point several factors affecting the accessibility to institutional support. These factors can be classified as supply dysfunctions, environmental dysfunctions and demand dysfunctions. *Supply dysfunctions* include: difficulty in access the needs of the small businesses and female population; rigid and excessively bureaucratic processes; inadequate and ineffective co-ordination among relevant agencies (c,f, Dinis 1998); absence of proper criteria to select potential entrepreneurs; lack of training facilities for both the staff involved and the women entrepreneurs. *Environmental dysfunctions* include, for instance, the adverse cultural values and/or legal limitation to women entrepreneurship (especially in third world); the dominance of male stereotype in the business world (c.f Fagenson 1991). *Demand dysfunctions* are often a consequence of environmental dysfunctions. Women, with less time, mobility and accessibility to information and capital resources, are confined to less attractive sectors of activity (Acharya 1998, Marlow 1997). The ineffectiveness of institutional support is also related with the awareness of women entrepreneurs. Several studies (e.g Haskins et al. 1989, Good 1996, Dinis 1998) show evidences that most part of individuals are not aware of the institutional support available to creation and development of small firms. Furthermore, when they are aware, often they are not inclined to make use of it. These studies reveal that individuals are usually isolated from official sources of assistance by a variety of more familiar sources of help and advice in which have more confidence and which are more regularly used. These sources include family and friends, business acquaintances, members of the firm, professional advisers, including, banks, accountants, lawyers, and officers with entrepreneurs have to maintain daily contacts. Only after make use of these sources, the entrepreneur will think in search for some more specific information in the "official" sources of support and advice.

Concerning women entrepreneurship in rural areas the lack of information about available institutional support seems to be even bigger. Harper (1996) refers the lack of exposition to information as an important barrier of women to create and expand their business. These is probably due to the accumulation of domestic and agricultural tasks which rural women are involved in rural areas (Dollinger 1985). Furthermore, Harper (1996) points out that lack of time is not an important factor and poverty, per se, is not a "pushing" factor to entrepreneurship. Awareness has to be created and change has to be perceived as something possible. This can explain why after the interventions of some individuals ("community entrepreneurs" in Johannisson and Nilsson 1989 terms , or "Community Brokers" in Cromie et.al. 1993 terms) women became more entrepreneurial.

Even if it is largely accepted that institutional support is potentially an important instrument to promote entrepreneurship (Elder and Olson 1989, Sharma et al. 1990, Hogarth-Scott 1992, Bhargava 1995) the effectiveness of such support is still not very clear. Some attempts to measure it (Johnson and Thomas, 1984; Knudsen et al., 1995; Gillin et al. 1996) have received severe critics. For instance Clay et al. (1996), referring to institutional support, point out that often inadequate criteria is used to measure the success of polices directed toward small firms. These inadequate criteria probably have lead to an inadequate allocation of public resources and to deeper situations of unemployment and regional asymmetries. These authors argue that: (a) most individuals would turn in a self-employment situation, with or without governmental intervention, and (b) intervention polices reveal ineffective in the assistance to the development of small firms sector. It is also interesting to note that some researches (e.g Carter y Allen 1997, Sharma 1990) show evidences, besides availability of financial resources, focus on profit and growth also have a strong influence in the dimension of the businesses owned by women as well in the level of women entrepreneurship.

3. Delimitations of the study

This research is focuses in formal and informal small businesses owned and managed by women and located in the rural Portuguese territory. An area is considered rural, when is located out of an urban area and when agricultural activities are still relevant in the region.

It is considered institutional support the assistance supplied by governmental and non governmental institutions, both profit and non-profit orientated. Informal institutions, in Sjostrand (1992), terms are excluded. This type of assistance it is included in "other types of assistance".

Furthermore, this research it is restricted to the study of the demand side of institutional support. Thus, only demand dysfunctions, and supply dysfunctions from the demand perspective, are analyzed. There are two main reasons for this option: first because the focus of this research is the relationship of the women with the formal system of support and second due a time limitation.

Finally, the discussion about differences between "income generators", "self-employed" and "entrepreneurs" is not considered. In spite of the possible distinctions between categories, in this research women entrepreneurs embrace all the three concepts and means women who founded and run a business.

4. Methodology

This is an exploratory study, based on case studies analysis (Yin 1989). The aim is to obtain a first insight about the relationship between women with the institutional support system. The unit of analysis is the business, defined as a regular activity performed to generate income. The level of analysis is both the micro level (the women entrepreneur) and the mezzo level (the business). Considering the purpose of this research and the fact that business of rural women are in general small or micro-enterprises, it is assumed that, in both practical and methodological terms, there is no need to distinguish between the two levels of analysis.

4.1 Case Selection and procedure

The selected case share the following characteristics:

- The women interviewed are (the) founders of the business;
- Women are the principal (only) owners of the business and are the main managers of the business;
- Women live in rural regions;
- All the businesses are artesanal (handicrafts)

Information as been collected through personal interviews and observation. The contact has been established in handicraft fairs where the women sell their products. The interviews were made based in a list of questions (see figure 2--omitted) but with enough flexibility to incorporate changes in the order and the content of the questions (further interesting information could be included). Furthermore, the way to present the questions was variable in order to assure that the interviewed fully understand what was being asked. In the protocol of the interviews, it is considered two phases of the business, "before" and "after" the creation of the business. The aim is to distinguish the relation with institutional support in the creation phase (before) and the development (after).

4.2 Characterization of cases

All the cases are the first business that women own. But they are diverse concerning previous experience, age of the entrepreneur, familiar situation, age of the business and legal form of the business.

Table 2 - Characterization of cases

#	Previous activity	Age of the entrep.	Familiar situation	Type of Business	Location	Legal form	Age of the business
1	Motorcycle shop employee	24	Single	Embroidery	Caminha	Single owner	2
2	Domestic	39	Married with children	Rag dolls	S. João das Areais	Shareholding company (3women)	10
3	Domestic,	40	Married without children	Woll tapistry	Mirandela/Covilhã	Informal	1
4	Manager of a sweet shop	49	Married with children	Traditional almond	Loulé	Shareholding (Mother and daughter)	3
5	Administrative employee	26	Married without children	Ceramics	Lalim (Lamego)	Shareholding company (couple)	less than 1 year
6	Domestic and Peasant	40	Married with children	Leather	Viera do Minho(Gondomar)	Single owner	18
7	Domestic	45	Single	Embroidery	Vila Nova de Famalicão	Single owner	4
8	Domestic	45	Married with children	Shred's woks	Teixoso	Single owner	9
9	Hotel employee	46	Married with children	Embroidery	Sabugal	Single owner	9

Women entrepreneurs vary from having none experience in the business field till some administrative/managerial experience. Also, cases include from young entrepreneurs till middle age entrepreneurs; entrepreneurs not married, married without children and married with children. Concerning the business, they vary from very recent till 18 years old and include formal and informal business, individual owners and shareholding companies. In table 2 are presented the characteristics of each case concerning these dimensions.

5. Results and discussion

The main results of the interviews are presented at table 3 and 4. Follows the results according the research questions.

- Q1: Do rural women entrepreneurs make use of institutional support to create and develop their businesses?

In almost all the cases, yes, they make use of institutional support to create and/or develop their business (cases 1, 2, 3, 4 5, 7, 8 and 9). Cases 4 and 7 did not make use institutional support to create the business but once in activity they apply for support. In the most cases, those who make use to of institutional support to create also use it to develop the business (cases 1, 2, 3 and 8). The only exception is case 5, which only use institutional support to create the business. However, this exception is obviously due to the short age of the business. According to the results it seems that those who begin the business with institutional support have a good probability to use it (the some or other) also to develop the business.

- Q2: If yes, Why and how do they make use of institutional support?

To *create the business*, the contact with the national Institute for Employment and Professional Training (IEFP) is the most common (cases 2, 5 and 8). Entrepreneurs demand training (case 2 and 8) and financial support (cases 2, 5 and 8). Less usual (only case 1) is the use of the private profit orientated sector (consulting enterprise) to create the business.

Table 3 - Results of the interview concerning the institutional support (Cases Vs Questions)

a)	2	3	5	6	7	11
CASES	<i>To create the buisness did you receive any help from any organization?</i>	<i>How did you get in contact with that/those organization?</i>	<i>Since your business is running did you ever have been in contact with support institutions</i>	<i>What was the aim of such contact</i>	<i>How did you get in contact with the institution?</i>	<i>How do you evaluate the performance/effectiveness of institutional entities/support</i>
1	Yes. consulting entreprise: (elaboration of a candidature)	Through a friend who work in the consulting enterprise	Yes: Municipalities (Intends to contact IEFP)	Support to participation in fairs	Own initiative	Consulting enterprise: (4) Municipalities (1)
2	Yes: IEFP, (training and financial support)	Inscribed ate the IEFP (looking for a job)	Yes: Municipalities LDA	Support to participation in fairs Promotion brochures	Own initiative Contacted by a technician of the LDA	IEFP: (5) Municipalities: (1) LDA (3)
3	Yes. Municipality: (support for participation in fairs) Tourism Center and AASE: (integrate a circuit of fairs)	Contacted by a technician of the municipality Own iniative	Yes: IEFP Municipalities	Business formalization Support to participation in fairs	Contacted by an IEFP technician Own iniative	IEFP: (4)
4	No	-----	Yes: IEFP Business Association	Contract 2 employees Fiancial support	through her husband (IEFP technician)	IEFP (5) Business Association (1)

				through an European program	Own Initiative	
5	Yes: IEFP (financial training)	Own initiative	No	-----	-----	IEFP: (4)
6	No	-----	No	-----	-----	-----
7	No	-----	Yes: IEFP: Municipalities	Trained employees Support to participation in fairs	Owned initiative	IEFP (5) Municipalities (3)
8	Yes: IEFP training and financial support	Induced by friends and acquaintances	Yes: Social affairs institute	Support to contract an employee	Own initiative	IEFP (1)
9	No	-----	Yes: Municipalities	Support to participation in fairs	Contacted/ Own initiative	Municipalities

Table 4 - Results of the interviews concerning other type of support (Cases Vs Questions)

a)	1	4	8	9 and 10
	<i>How did the idea to create a business occur to you?</i>	<i>To create the business did you have other helps (besides institutional support) ?</i>	<i>After created the business did you have other helps (besides institutional support) ?</i>	<i>9/10 Are you satisfied with your business? - (from 1 to-5)</i>
1	Enjoy the activity	Yes: parents (she lived with her parents)	Yes: colleagues in the fairs (information)	Yes, very much satisfied: she enjoy what is doing, the business is growing and it has enough for main expenses (5)
2	Need to create her own job in the sequence of a training program	Yes: husband (financial and moral support)	Yes: husband and soon (selling and distribution of products)	Yes,. quite satisfied: Good growing of the business, limited by their own option, personal and professional accomplishment. (4)
3	Need to solve familiar problems and to	No	Few, from colleagues	Yes, quite satisfied: Her products are beginning to be

	generate income		(information)	known in the market and thus she intends to formalize the business (4)
4	Old dream and need to create her own employment	Yes: husband - he work in IEFP (information)	Yes: Husband and daughters and soon: (production, distribution and selling)	Yes, quite satisfied since they get a contract with a big client. (4)
5	Husband unemployed and association of competencies	No	No	Cautious: is still to soon to be optimistic (3)
6	Help the husband	Yes: husband (information, training, production and orientation)	Yes: the husband (information, production and orientation)	No: the concurrence is not fair, the sales are declining, and there is no information about opportunities
7	Need to create her own employment	No	Yes: colleagues in the fairs (information)	Medium (3)
8	During and after an exposition friends and acquaintances encourage her to create a business	No	No	Very little (2): sells are almost not enough to pay the debts
9	Old dream and need to create her own employment	Some: indirectly, from the husband (house is common and moral help)	Some: husband (help in domestic activities and in support activities to production)	Not very much: "people don't have money" (3)

In this case the support consisted in the elaboration of a project to apply to an European program directed to micro-enterprises, in order to get financial support. In case 3, being an informal business, the women entrepreneur worked with entities not directly directed to promotion of enterprises or employment, but with tourism and handicraft activities. They were, the municipality, the tourism organism and the "Association of friends of the Mountain". The aim was to get in the circuit of handicraft fairs

To *develop the business*, IEFP also appear has an important institution, but in this phase, to supply trained employees (cases 4 and 7), to help in the formalization of the business (case 3) and to give financial support to participation in handicraft fairs (cases 1 and 3). For this some reason, women entrepreneurs also have been in contact with municipalities (case 1, 2, 3, 7 and 9). Less usual was the contact with the Local Development Associations (LDA) (case 2), Business Associations (case 4) and the "Social affairs institute" (case 8).

The contact with the institutions has been made for own initiative of the women entrepreneur (cases 1, 3, 4, 5, 6 and 7) or promoted by someone else. In the first situation (own initiative), the entrepreneur already knew the institutions from their previous work experience (cases 4 and 5) or they knew about their availability through colleagues/friends (cases 1, 3, 7, 8, 9). In the second situation, technicians of the institutions established the contact. (Cases 1, 2, 3, 4 and 9)

The results seems to indicate that, previous experience of the women entrepreneur, the share of experiences/information among colleagues/friends, and institutional initiatives to contact the potential "clients" are important factors that contribute for the use of institutional support. These results confirm Harper (1996) conclusions: after the intervention of some individuals external to the community (colleagues from other places, technicians from the institutions), women became more entrepreneurial.

- Q3: If yes, How important and effective is the institutional support?

In general the use of institutional support seems important for the *creation of the business*. In all the cases that make use of it with that purpose (cases 1, 2, 5 and 8) they were very important or even fundamental. However in one case (case 8) support was also considered ineffective and even prejudicial. This was related with wrong informations given by the institution or the lack of understanding of the process (both possibilities have been indicated by the entrepreneur).

Concerning the *development of the business*, frequently they did not have any results, specially those with the municipalities (cases 1,2 and 9). On the contrary, the contact with IEFEP seems to be very positive in cases 4 and 7 (however is important to note that in 4, the contact was the husband of the women entrepreneur). In case 3, the contact was considered positive, but still without results, for unique responsibility of the women entrepreneur (lack of time and disposability). Positive but not very useful was the contact with the LDA, since "the intentions were good but the results not so good". The contact with the Business Association (case 4) was considered negative because after almost three years of the application, the support still was not received. Also the contact with the "social affair institute" ha not been positive. In fact there was been any result since the demand did not fit the conditions to be supported. Thus, the results seems to indicate that institutional support is more important and effective in the launching of the business than in its development.

- Q4: If not why they do not make use of institutional support?

Cases 4, 6, 7 and 9 did not make use of institutional support to create the business, but the reasons for that are diverse. The knowledge about the enterprise "world" acquired in the previous work experience allows women entrepreneur to begin the process without institutional support (cases 4 and 7). However, in these cases, once the business is running, they apply to institutional support. Another situation is represented in case 6, where even if she knew (through her husband) about institutional support available, she did not apply neither to begin nor develop her business. The reason has been the lack of faith in the effectiveness of the support system (financial support always go to the inadequate people). Finally, the lack of information also has been a reason pointed to do not make use of institutional support (Case 9). These results are consistent with the results of other studies (Haskins et al. 1989, Good 1996) which shows that most individuals are not aware of the institutional support available and when they are, they often are not inclined to make use of it.

- Q5: In any case, what other support do they use to create and develop their business and how important it is?

Family and friends are in all cases considered important for the creation and/or development of the business. Parents are important in the case of single women (case 1), but husband and sons/daughters are pointed in the case of married women (cases 2, 4, 6, 9): In this case, the support is important both to launch as well as to develop the business. Friends and other known people appear as important in the launching phase of the business: in case 1, a friend was fundamental apply to institutional support; in case 9, friends and other known people encourage the entrepreneur to create the business. However the content of such support vary. In some cases the support is merely moral (friends in case 9), in other is traduced in information (colleagues, in case 1, 3 and 7, husband, cases 4 and 6), logistic support (parents, in case 1; husband, in case 10), or financial support (husband, in case 2). In some cases the support of familiars include help in the production and distribution activities (cases 2, 4, 6). These results are also consistent with Haskins et al. (1982) and Good (1196) results: the sources of support included family, friends and other persons with whom the entrepreneur maintain a daily and (close) contact.

- Q6: How satisfied are women entrepreneurs with the performance of their business?

The satisfaction with the business is variable. However, an objective interpretation of the results is difficult if not impossible since the patterns of reference were variable. They are conditioned by the expectations of each entrepreneur. According to the results it seems that expectation are related with the previous experience of the entrepreneur, the previous results of the business (is also related with the age of the business and the phase in the life cycle of the product) and that it can be induced by the institutional side. For instance, the worse results appear in cases 6 and 8. Case 6 is the oldest business analyzed and it seems that the product arrived to a decline phase (demand is declining consisting in the last years). When no previous experience in the business field does exist, an excessive optimism transmitted from the institutional side can became pernicious. Apparently this was the situation of Case 8 (this feeling was also transmitted by the entrepreneur of case 5). The medium results represent the more cautious positions and have been transmitted by women with previous experience (cases 5, 7 and 9). This position can be associated with a better knowledge of enterprises reality (especially in cases 5 and 7) and/or the existence of terms of comparison (the previous work).

6. Conclusions

In summary the empirical study allows to conclude that:

1. It seems that it is not rare the use of institutional support by rural women entrepreneurs, specially to create the business. Also, it seems that when institutional support is used to launch the business usually it is also used to develop the business.
2. Institutional support is most used to get financial support, training and help to lead with bureaucratic processes. In Portugal the Employment and Professional Institute (IEFP) seems to perform a relevant role in the institutional support system. Previous experience, contacts with colleagues and institutional initiative seem to be important to increase the use of institutional support.
3. In general, the use of institutional support seems to be very important for the creation of the business even if not always effective. In the development of the business, institutional support does not seems crucial. Inadequate expectations about the business created by the supply side, lack of comprehension of the processes and inadequacy between the demand and the offer of institutional support, are some of the problems related with the use of institutional support.
4. When women do not make use of institutional support to create the business there are several reasons: (1) they don't need ; (2) they don't know; (3) they don't want (they don't trust in the system)

5. Family and/or friends almost always are considered important for both create and develop the business. The type of support, however vary, from indirect help (moral support, relieve in other tasks, information, etc) to more direct support to the business (financial support and support in production and distribution activities).

6. The satisfaction with the business depends of the women entrepreneur's expectations. The level of expectations seems to related with the previous (labor) experience of the entrepreneur, the previous results of the business.

7. Limitations of the study and future developments

The interpretation of the results and conclusions should take in consideration the following limitations of the research. First of all, the number of cases analyzed is very small. To make conclusions more reliable, more cases have to be analyzed in future researches, using the same or a quantitative methodology. Secondly, all the cases analyzed are from the handicraft sector. It is not clear that business located outside this sector present the same results. Further researches should incorporate another type of businesses. Third, none of the cases is from urban areas, however, some of the areas are "more rural" than others, i.e, there is differences in the permeability to urban values and the accessibility to urban areas. Future researches should take in account this aspect. For instance, considering characteristics of the region has control variables or choosing areas with very similar characteristics. Fourth, no distinction has been made between entrepreneur, self employee, and income generator. However, it could be interesting consider the three types women owners of businesses, and to contrast their relation with institutional support. The results could proportionate good clues to better adapt the content of the assistance and the way to deliver it, to the characteristics of the demand. Finally, in this study is only concern with the demand side. Further researches should analyzed the other elements of the institutional system.

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LIMITS TO MANAGEMENT DEVELOPMENT IN SMALL HOSPITALITY FIRMS

Graham Beaver and Conrad Lashley

Abstract

This paper examines the nature of management in small firms and shows that there are significant differences in the managerial tasks in small and large enterprises. Small business management in the industry invariably takes place in an industrial setting where there is a general tendency for low levels of employee development and a lack of systematic training. Management development in small hospitality firms is also at a low level, and the paper provides some explanations as to why owners and managers in "micro" firms do not demonstrate priority to their own development. In conclusion, it suggests that agencies who wish to improve competitiveness by intervening in the development of managers of small hospitality enterprises need to adopt a much more subtle and targeted approach.

Introduction

The significance of small firms in delivering a substantial part of the total output of hospitality goods and services is a long established feature of the hospitality industry. Indeed the very origins of the industry in domestic settings - providing accommodation, food and drink - suggests that hospitality is a small scale, inter-personal activity. That said, the growth of a small number of huge national and international organisations which control disproportionately large sections of lodging, restaurant and public house markets, is a remarkable feature of the current hospitality industry.

In theory, the small hospitality enterprise, located close to its market and in personal contact with its customers, has considerable advantage in being able to respond to customer needs and demands. Whilst there are many small hospitality firms who do successfully compete in their local market, small firms in general are losing market share to the bigger operators. Some commentators go so far as dismiss the future existence of the small firm in hospitality provision. Whilst the economic might of large firms to establish brands and operate at lower costs because of scale advantages, goes some way to explain the loss of market share to small firms, the level of skills and talents together with the limited aims and objectives of those who own and manage small hospitality firms are also significant factors.

This paper examines the nature of management in small firms and shows that there are significant differences in the managerial tasks in small and large firms. Even amongst small firm owner/managers there are clearly different aims and objectives and reasons for running small enterprises. Small firm management in the hospitality industry, in particular, takes place in an industrial setting where there is a general tendency for low levels of employee development and a lack of systematic training. Management development in small hospitality firms is also at a low level, and the paper provides some explanations as to why owners/managers in 'micro' firms do not demonstrate priority to their own development. In conclusion it suggests that agencies who wish to improve competitiveness by intervening in the development of managers of small hospitality firms need to adopt a much more subtle and targeted approach.

Management In The Small Firm

The management process in the small firm is unique. It bears little or no resemblance to management processes found in larger organisations, which have been the subject of substantial academic research resulting in numerous models, prescriptions and constructs.

In the larger organisation management is seen primarily as a *predictive* process concerned with the clarification of long-term objectives, the formulation of appropriate policies to meet such objectives, and the feedback of information to indicate successful or unsuccessful achievement of the goals established. (See for example Faulkner and Johnson, 1992). In contrast, management in the smaller firm is primarily an *adaptive* process concerned with adjusting a usually limited amount of resources, in order to gain the maximum immediate and short-term advantage. In the small firm efforts are concentrated not on predicting but on controlling the operating environment, adapting as quickly as possible to the changing demands of that environment and devising suitable tactics for mitigating the consequences of any changes which occur.

In the smaller enterprise, the management process is characterised by the highly personalised preferences, prejudices and attitudes of the firm's entrepreneur, owner and/or owner manager.

The nature of managerial activity expands or contracts with the characteristics of the person fulfilling the role(s). Such expansion or contraction is partly conditioned by the adaptive needs of the context in which the business operates, and is partly dependent upon the personality and needs of the owner, manager or entrepreneur. Consequently, the management process in the small enterprise cannot be viewed in isolation from the skills demanded of the three key roles of entrepreneur, owner and manager, together with technical skills relevant to hospitality operations. However, in the smallest firms all these roles may be enacted by one individual. It is only following a period of business growth and expansion, that each role may become enacted by separate individuals. The small firm management process cannot be separated from the personality set and experience of the key role player or players.

Another characteristic of the small firm management process is the closeness of the key role players to the operating personnel and activities being undertaken. This provides the key role players with extraordinary opportunity to influence these operatives and activities directly.

However, these relationships are often informal, there being no precise definition of rights and obligations, duties and responsibilities. Appointment and promotion are often made on the basis of birth or personal friendship rather than on the basis of educational and technical qualifications.

Organisation structures, in so far as they exist, are likely to develop around the interests and abilities of the key role players. Such organisation structures are likely to be organic and loosely structured rather than mechanistic and highly formalised. Thus the management process in the small firm is seldom a readily visible process. It often has an abstract rather than concrete form. However, the key role players must fulfil a number of basic managerial functions, duties and roles if the organisation is to succeed. Logically, it follows that the lack of attention to these fundamental managerial activities and tasks will, at best, lead to suboptimal performance and may even threaten the survival of the firm. These essential managerial activities have been defined and refined throughout a long history of management research.

Applying these principles specifically to the small firm management process suggests the key skills and abilities, outlined in Figure 1(omitted), need to be utilised.

Whilst it may be argued that these skills and abilities are generic to all management situations, the complexity of the small business environment demands a unique blending of skills to succeed in exploiting competitive advantage to achieve superior performance. Naturally, inherent dynamism will demand fluidity, flexibility and adaptability. Thus, the lone small business practitioner may be asked to enact any one of the multiplicity of roles implied by the above at any one time.

In any given small business management situation these roles can be considered to be akin to different stakeholders, each demanding the possession and application of specific skills and abilities. As Mitroff (1983:163) points out:

'... different stakeholders do not generally share the same definition of an organisation's *problems*, and hence, do not in general share the same *solutions*.'

Each stakeholder approaches the organisation's problems from a unique perspective and demands a unique solution. Traditional concepts of decision-making would emphasise the need to achieve consensus and agreement between alternative stakeholders in order to lead to effective outcomes. However, Mitroff (1983) goes on to argue that in fact individual human psyche or personality contains a '*plurality of selves*' - alternative and sometimes conflicting perceptions of self - which constitute stakeholders thus influencing behaviour. The small business practitioner is, therefore, subject to a number of competing and conflicting influences which may cause dissonance, leading to erratic, unpredictable and unacceptable behaviour which is in complete contrast with the rational, professional and acceptable management behaviour portrayed by Mintzberg (1973) and others. Frequently, as Osborn (1991) points out, the power which accompanies majority ownership cannot be challenged by other stakeholders in the smaller enterprise situation and therefore the ability of the key role player(s) to cope with absolute power and leadership responsibility has a significant impact upon the survival and growth potential of the enterprise.

For any firm to remain successful over a sustained period there must be a capability to adapt to changing circumstances. Indeed, Greiner (1972) shows that failure to adapt to a series of "crises" caused by growth is one of the principal causes of failure for all organisations. Hence, one of the primary ingredients in small firm success must be the managerial competence of the owner manager.

What are these managerial competencies which underpin the successful small business? A useful guide may be to examine the usual contents of small business training and development programmes. There is a need to distinguish between training and development which might be necessary for employees within a small business training and development which is focused upon the specific needs of the owner manager(s) themselves. The small firm owner-manager requires specific, transferable, managerial skills directly related to entrepreneurship and professional management within the operating environment of the business, as shown in figure one. He or she needs to be able to initiate and implement change and improvement in services, products and systems.

It is very easy to note the obvious - that providing all the necessary skills and competencies are found across the whole team which makes up the small enterprise, the business should be capable of achieving success. However, adept management is still required to blend and bring out these abilities and as Jennings and Beaver (1995) illustrate, the personality and positional power of the entrepreneur often mean that latent talent within the team goes unrecognised or under-utilised.

This raises the question whether small businesses fail through lack of managerial skills, which let down otherwise good skill and competence in providing the product or service, or through lack of competence in providing the product or service demanded by the customer, despite otherwise competent management in the organisation? Ineffective management cannot simply be identified as the primary cause of small business failure without recognising several factors which are peculiar to the small business operating context. The study by Grieve-Smith

and Fleck (1987) using a case study approach to examining business strategies in small high technology firms in Cambridge, raises several interesting managerial issues. They point out that small enterprises can experience real difficulties developing or obtaining appropriate managerial skills since they cannot provide the salaries and benefits that managers could expect from larger organisations. Furthermore their case studies highlight several other important issues. For example, they refer to the founders of certain companies being conscious, at the start, of the need to recruit external managers and to appoint these individuals from larger companies, presumably to facilitate business growth and development. Additionally, they also refer to the need to attract managers with different additional skills to those already in the firm to complement the expertise on which the company was based. This would suggest that the business founder had the desire to '*construct a balanced managerial team*' as one of the prime drivers to sustained business expansion and performance.

It is also a factor that many well dramatically reduce the risk of business failure. It must be emphasised however, that there are many types and categories of small business, each with its own particular operating context. Equally, there are also many different ways of organising and managing in the search of competitive advantage and continued survival and an even greater diversity of small business owners and managers with varying motivations, expectations and abilities. It would therefore, be unwise simply to focus on small high technology firms as a basis upon which to make generalisations about management strategies for business growth and failure prevention. The analysis of the managerial contribution to small business failure must also acknowledge the factor of *disadvantage*, due not only to the size of the firm but also to the nature of the operating context and the relatively ineffective support infrastructure (Beaver and Harrison, 1994). This is particularly relevant to the hospitality industry, where the barriers to entry are relatively low and many would be entrepreneurs feel that they have the technical competence for success because of the link between hospitality and domestic activities. For some entrants, the attractions of cooking and entertaining friends, can be misleading. Successful hospitality business management requires an array of competencies which extend beyond being merely hospitable.

Nicholson and West (1988) illustrate the many significant differences between managers in small and large firms confirming both the presence and nature of disadvantage. Furthermore, there is some evidence provided by Handy et al (1988) in their international review of the education, development and training of managers that:

'Small companies are different. In no country do they take the same long term view of management development, nor are they prepared to spend time and money on any form of training which does not have an almost immediate pay-off'

Management processes in small firms are unique. Much of the current, contemporary management theory is founded upon the empirical analysis of managerial action in large organisations. These principles, no matter how refined, cannot be applied directly to the small enterprise. Whilst common managerial skills need to be in evidence in many organisational situations, the contextualisation of these skills to meet the requirements of the small business operating context is distinctive. Competitive advantage in small firms is an elusive concept. It is fashioned by the actions and abilities of the principal role players and owes much to their personal perception of satisfactory performance and business direction. Growth and development of the smaller enterprise brings with it many challenges, especially in terms of the separation of ownership and control. Delegation and professionalisation of management activities invariably demand a less personalised and consequently more formal management process. (See for example, Jennings and Beaver, 1997).

Human Resource Development In Hospitality Enterprises

The development of managers in small hospitality firms is shaped by important and interrelated factors, namely the link with the hospitality industry and the small size of the firms under consideration. As an industry, hospitality tends not to have a robust history of training and employee development. The (1992) National Economic Development Office (NEDO) report registered concern that the industry had a poor training record and was not making the most of the resource it employs. More recently the Hospitality Training Foundation Report(1996) on training across the hospitality industry suggested that 43 per cent of employers in the industry do not train employees, and that only 25 per cent of firms trained all employees. Even those who do provide training were mostly training to meet a 'legislative or perceived inspection threat', and when these are accounted for 'a lamentably low level of training is actually carried out' (1996:64).

The situation is worse in small hotels, cafes, restaurants and public houses. The report concludes:

'In these establishments, a training culture does not exist, neither is there an acceptance on the part of employers to take responsibility for training and developing their staff' (HTF, 1996:63).

Interestingly the picture painted by this recent national survey, reveals much in common with our earlier work (Lashley,1996). Semi-structured interviews with local owners of 55 small firms revealed that only nineteen of the total fifty five enterprises that took part in the survey had any formal training policy and only a small proportion of establishments (approximately 20 per cent) made any budgetary provision for staff training. The situation was more stark when organisation size and form of ownership were taken into account. Thus firms employing fewer than ten employees, and which were owner managed, rarely undertook systematic training of staff. These two factors were also related to the limited perception of training needs in cafes and bed and breakfast establishments. Owner managers in these types of business registered the lowest perception of training needs for either themselves or their staff.

Commenting on the low participation rate of small firms in employee training, the HTF report points to some problems faced by small firms. Training programmes are costly and time consuming to implement. Supply side difficulties can present barriers to participation where programmes are inappropriately structured, time-tabled at busy periods for the owner/manager, or are too expensive. The report makes some suggestions about the delivery of programmes which suggests that flexible, mixed- mode delivery and the use of training consortia could help overcome some barriers. The Nottingham Business School survey (Lashley, 1996), also confirmed that half-day modular programmes were the most popular, particularly where they allowed participants to mix and match the modules to suit their particular needs That said, the report suggests that whilst the mismatch between supply and demand for training causes some problems, the difficulties are more fundamental.

'Employers generally demonstrate a lack of interest in, or ability to seize upon training initiatives and they certainly do not appear to accept responsibility to invest in training to improve in business performance' (HTF, 1996:64).

At the same time the industry is experiencing a skills shortage. Over 40 per cent of employers registered recruitment difficulties in the previous twelve months, and many identified an inability to recruit the appropriately trained staff as the key difficulty.

As further confirmation of the low training activities, the general awareness of training provision and training institutions was low amongst hospitality employers. Whilst the take up and use of National Vocational Qualifications and Scottish Vocational Qualifications is low in the industry, the general understanding and use of Investors In People is even worse. Only one in four employers were aware of IIP, and a mere 3 per cent of the

employers in the HTF survey were certificated. Even more worrying was the situation with Training and Enterprise Councils (LECs in Scotland). Only half of the employers had heard of them and just 18 per cent had any idea of what they did. Indeed, only 1 per cent claimed to have used them! It should be noted that this might be distorted by the respondents lack of awareness of links back to services which they are using, for example by attending short courses funded by Training and Enterprise Councils (TECs) but not perceived to be provided by them.

An examination of management training provision reveals similar shortages of trained managers and a low level of management development provision in the industry in general, and within small hospitality firms in particular. The last HTF survey has altered the analysis and presentation of the statistics by bringing together needs for managers and supervisors so direct comparison of trends is difficult. The earlier report, 'Meeting Competence Needs in the Hotel and Catering Industry' (HCTC, 1992) suggested that some 29,000 managers were needed to replace managers who had left the industry. At that point the annual output from colleges and universities was just 2,000 per year - a shortfall of some 93 per cent! The HCTC (1992) report detected some improvements in the levels of trained managers in the industry, but said that there was still a long way to go when compared with other sectors of the economy. At that time some 30 per cent of hospitality managers had no formal qualifications compared with 12 per cent across all UK industries.

The combined manager and supervisor figures in the 1996 HTF report estimated that the industry would need some 34,000 managers and supervisors to cover losses to the industry, plus anticipated growth, with an annual output from colleges of only 5,000. The report, therefore, suggests that current college and university outputs of newly qualified employees represents approximately 15 per cent of the annual need for managers and supervisors. In addition to these estimates of shortfalls in replacement needs, the report suggests that only 18 per cent of hospitality managers had a higher education, and that just under 30 percent had no qualifications what so ever. Whilst these figures make it difficult to show precise trends (and the picture is confused by both a reduction in management needed through delayering and some increase in education provision), it is fair to conclude that the industry still has a large shortage of appropriately trained and qualified managers.

Current management development practices show that middle and supervisory managers were more likely to have been trained in their present job than operatives or senior managers. The HTF research showed that 81 per cent of middle and junior managers had received training in their current jobs. That said, much of the training appeared to relate to legislative responsibilities, and this has to be set against the key sources of training identified. Of the establishments where training took place, just under half reported Environmental Health Officers and equipment suppliers had been the source of training. Interestingly in the HTF survey, more senior managers than middle managers and supervisors registered that they were dissatisfied, or very dissatisfied, with the current levels of training which they received.

Though there are examples of firms who have a systematic approach to human resource development in their organisations. Organisations like TGI Fridays train all employees, and only allow trained employees to serve customers or take-over a kitchen position, place a high priority on employee development. Similarly, McDonald's Restaurants make a significant investment in both employee and management development. In the main, these businesses are untypical of many hospitality operations. More typically, the industry as a whole makes a low investment in training and employee development, it has a lower proportion of managers with a higher education and a higher proportion of managers with no educational qualifications at all. The picture that emerges from the recent HTF research seems to suggest that where management training is taking place, much of it appears to be aimed at improving technical competence and an understanding of legislation.

Apart from the general impression that the picture of management development, as with all forms of employee training is lower in small firms, there is little systematic research into training activities within smaller enterprises. The following section reports on some insights which have been gained through research carried out at Nottingham Business School (NBS).

Management Development In Small Hospitality Firms

There are two problems for potential providers of management development programmes to small firms in the hospitality industry. The first is that much of the research which might aid providers focuses on the employee development in the hospitality industry as a whole, and thereby includes large organisations who, as was argued earlier, have an array of different realities to face. The second problem is that all small hospitality firms are treated as being broadly similar and there is little recognition of the potential differences in objectives for, and constraints on, those managing different types of hospitality business. The research project undertaken by staff at Nottingham Business School attempted to build a picture of management development needs which overcame these two shortcomings.

The project started with assumptions that appear to be validated by the HTF's (1996) findings that a reason for owner managers not participating is that there are barriers to entry for small firms. It was the team's view that provision was inappropriate, too expensive and being delivered in the wrong way for many owners of small firms to participate. The research project aimed to build a picture of the management development needs in terms of both content and delivery, and to identify general needs of small firms across the sector as a whole and within specific types of hospitality operation.

Fifty-five semi structured interviews were conducted with employers in ten different categories of hospitality business - hotels, large, medium and small, bed and breakfast establishments restaurants - cafes - pubs and bars, (freehold, tenanted, and managed) and clubs. The key theme of the research was to identify the perceived training needs of those taking part. The research instrument asked respondents to identify skill areas where they might have a training need. The skill areas were arranged under a number of largely functional headings such as - finance marketing - communications - management (of people) - legal aspects - quality - staff deficiencies - computer skills - maintenance and general management. Though a relatively small sample in any one category, the research did provide some rich data on managerial perceptions of training needs across the sector's small firms.

Table 1 provides an overview of the findings of the interviews. Bearing in mind the tentative nature of the findings, there are some interesting outcomes in both the nature of the training needs identified and owner/manager responses in different establishments. Concerns to improve financial performance, marketing, human resource management, information technology skills, together with concerns about understanding legal responsibilities, particularly in relation to staff, comes across quite strongly. More importantly, however, these findings suggest some hospitality owner/managers appear to be more aware of, and concerned by, their perceived management deficiencies than others.

Owner/managers in small hotels and tenanted pubs registered the highest level of perceived skill deficiencies. In both cases the respondents running these businesses registered higher levels of perceived skill deficiencies across the range, than respondents in other categories. Similarly, respondents running cafes, free houses, and bed and breakfast establishments registered significantly lower levels of concern for skill deficiencies.

Table 1: Perceived Managerial Skill Deficiencies in Different Categories of Hospitality Establishments

<i>Registered skill deficiencies by skill area</i>												
Establishments	No.	Fin	Mkt	Com	Man	Law	Qua	Sta	Comp	Mai	Gen	Total
Hotels												
Small	6	8	12	4	14	9		5	1	2		55
Medium	5	5	1	1	4	1		6				18
Large	5	2	0	1	3	7		5		2		20
Bed/Bkfast	6	5										5
Public houses												
Managed	5											0
Tenanted	6	20	15	7	16	12	1	11	4	3		89
Free houses	6	3	1	1								5
Clubs	5	11	6	3	5	4		3	4			36
Restaurants	5	6	6	2		1						15
Cafes	6	1	4									5
Total	55	61	45	19	42	34	1	30	9	7	0	248
Source: Lashley (1996).												

Given the relatively small sample of establishments in this survey, caution needs to be applied in generalising the findings, but the general thrust of the evidence does need some further discussion because it does raise issues relevant to the provision and take up of management development in small businesses. The generic term, 'small firm manager' covers a wide variety of individuals with different motives and aims for their organisation. This will be discussed in more detail later, but these findings do suggest that these variations in motives and material experiences present different possibilities for training providers.

Owner/managers of tenanted pubs and small hotels appeared to be the most aware of their own training needs, and both may reflect a sense of vulnerability because of their position in relation to the market. Those running tenanted pubs, for example, often have limited capital to invest in the tenancy and may have limited additional resources to invest in the business. Invariably, the properties offered by the breweries for tenancy were marginal in business terms. The best houses were generally kept under the direct managerial control of the brewery. Releasing a pub for a tenancy, or more recently for leasing, retains the units as an outlet for the brewery's sales, but simplified the managerial task. In many cases, the breweries received rents from these units, and made profits on goods supplied, but provided little assistance to the tenant. It is possible to recognise that owner managers running pub tenancies

would feel isolated and lacking in skills needed to make the business a success, and this might heighten awareness of training needs.

Owner managers of small hotels (5-16 bed spaces) may well have committed more capital to the venture than pub tenants, but they also feel equally vulnerable. The entry barriers to running a small hotel are still quite low, most requiring capital investment within the realms of domestic property investment. In many cities, this type of business is located in former Victorian and Edwardian domestic properties. The source of vulnerability might also stem from a limited ability to invest so as to compete with larger firms. The demand for accommodation has, at almost every level of the market, shifted to a requirement for en-suite facilities. The very nature of the properties limits the ability to locate full bathroom facilities in every room without the loss of capacity. On the supply side, system built budget accommodation is being provided by the large brands, such as 'Travel Inns' and 'Travel Lodge'. Again, these individuals perceive the threat, or business difficulty, and develop a heightened awareness of their skill deficiencies.

These findings are entirely consistent with general trends in small firm management development, in that it is important to look to business triggers which stimulate awareness of the need for training. Business start-up, growth and decline are traditionally periods in a businesses life-cycle which create such stimuli. The HTF (1996) report similarly concludes that few firms have on going development plans, much training and development is sporadic and triggered by some immediate short-term problem.

The second issue to emerge from these interviews with owner managers is that it is a mistake to assume that all small business owner managers are motivated by the same drives and ambitions. The responses from bed and breakfast, cafes and public houses which are freehold (independent from any one brewery) is interesting in that all three categories of establishment registered the lowest interest in training and development: Owner managers in all eighteen establishments expressed a low concern for their skill development. Across the whole array of possibilities, the respondents registered few skills in which they were deficient for current business needs, or likely to need the skill in the future. Common sense dictates that the individuals managing these organisations must objectively have some skill deficiencies, but they did not register that they perceived the deficiency as a problem. Though this might seem to be common sense to the outsider, the individual running these businesses see things differently and clearly have different motives and reasons for their business venture. In part, the confusion experienced by commentators is located in the use of generic terms which mask a variety of motives. Terms like 'small business', and 'entrepreneur encourage generalisations which can have the impact of suggesting homogeneity when heterogeneity is indeed the case. Each term represents an organisational metaphor through which to describe these firms. 'Small business' implies the key focus is in relation to the size of resources available to it. The Bolton Report (1971) suggested an economic definition of small firm which pointed to the firm's relatively small market share, its owner/management structure and independence from a large enterprise. More recently, the European Union has defined 'small and medium sized enterprises' as employing fewer than 500 employees. Nationally, this definition covers 99 per cent of UK firms! Using numbers of people employed, it is possible to identify three categories - *micro* (< 10) - *small* (10 < 100) *medium* (100 < 500). The term 'Entrepreneur' suggests that the focus is reflected in the motives and nature of management. The first metaphor suggests that these firms are handicapped, or limited, by their size, whilst the second suggests that those running these businesses are guided by entrepreneurial drives. Those shaping public policy towards these business have often been over concerned with the 'small business' metaphor and have intervened in a way to compensate for their lack of resources through the provision of management training and an array of courses designed to provide the training which the organisation itself does not yet have the resources to provide. (See for example Jennings and Beaver 1997).

The entrepreneurial metaphor has the potential to be of assistance because it suggests that the focus be concerned with the individual in the business leadership role. However, caution needs to be exercised here because the metaphor does suggest meanings that often have an image of growth, of individualism, of profit maximisation and risk-taking strategic management practises which may, or may not describe the intentions and motives of those running these firms. The entrepreneurial metaphor, can also suggest more homogeneity than is really the case. Recent literature on entrepreneurs and entrepreneurship suggests that there are a range of types of entrepreneurs and it is possible to identify some of these within the hospitality context.

- The *entrepreneurial venture* provides a most powerful metaphor for small firms. It suggests that these are firms dedicated to growth and the grasping of opportunities as they emerge. Whilst the image is powerful and widely held, only a minority of firms can be said to be 'entrepreneurial' (Morrison, 1997).
- The *life style enterprise* describes a firm which provides the owner/managers with a means of economic survival within a desired style of living. In the hospitality industry this might include businesses set within the country-side, say in rural hotels or public houses. In other cases, the business may be set round a leisure activity, say in water sports, or rock climbing. The key motive for running the business is to create sufficient resources to live within the manner and setting desired by the owners.
- The family *enterprise* is common within the hospitality industry. Many independent hotels, restaurants, and freehold and tenanted public houses represent family concerns with different individuals performing different roles within the business. In some cases, the family venture represents just one of several sources of income to the family. A bed and breakfast venture which provides the family home, and a source of income in addition to wage income from family members, is a common example.
- *The female enterprise* has witnessed some increasing growth over the last decade. Female self employment grew from 20 per cent in 1981 to 26 per cent in 1994. Given women's traditional domestic roles in the UK, it is not surprising that hospitality industry ventures have provided some attractive business ventures for women. The example of bed breakfast establishments, given earlier, have provided opportunities for some women to both meet domestic role expectations and earn income.
- The *ethnic minority enterprise* enables members of various ethnic minority groups with an opportunity to promote their economic well-being and protection against disadvantage within the host community. The restaurant sector in the UK has several examples where ethnic minority restaurants have successfully developed niche markets for specialist segments of the eating out market.
- *Self employment and control* are important motives for some owner managers. Self employment can provide a chance to exercise skills and talents which are personally satisfying to the owners, and given the right market segmentation can help the individuals to maintain self employment with a reasonable degree of personal control over their working lives. Again the restaurant sector includes examples of individuals who enjoy the skills of food production and service, and who are not particularly motivated by desires to increase revenue, profits or the scale of the business.

Whilst this is not meant to be an exhaustive list of different entrepreneurial types, it is sufficient to show that the motives of those setting up and maintaining small hospitality firms are not always compatible with 'rational' economic calculations. Motives associated with personal preferences or which relate to self image do not automatically lead to levels of self analysis which suggest that a lack of business skills present a major threat to their business goals. In many cases entrepreneurs are commercially satisficing. Providing the business meets immediate survival needs, pays the bills and delivers an appropriate level of security, there is limited awareness of, or interest in, the development of skills through which to develop the business. In these circumstances, owner manager interests and concerns are focused on commercial issues in a secondary manner, and only become important if the venture is under particular threat or difficulty.

On another level it may be that the characteristics and personalities of those who start up a business are by their very nature more 'inner directed' than outer directed' (Goffee and Scase, 1995). Attempts to establish a social psychology of the entrepreneur have produced some contradictory findings, but common features are an ability to work independently, limited need for the structure, support systems and prescribed roles found in large organisations, and a self image independent from others' opinions. The National Westminster Survey of Small Business (1996) shows that in firms with 1 to 4 employees, 55 per cent of small business proprietors stated 'independence' as a key motive for starting the venture, whilst only 16 per cent claimed '*making money*' as being the important factor. Similarly, the Leeds Metropolitan University (1997) study of over 1000 small firms showed that only two per cent of respondents stated that '*making more money*' was the most important reason for starting the business. Almost 74 per cent stated that '*to do what I enjoy*' or '*to be my own boss*' as the key reasons. In these circumstances, the nature of the self image and importance of personal independence are likely to create a situation where the business owner's attentions and perceptions are so 'inner directed' as to preclude consideration of skills and talents which might be developed externally.

Given these variations in business aims and motives for starting a business, it is possible to identify the variations in interest in management development, outlined in Table 1, as being associated with differences in reasons for start up and perceptions of threat on the owner. People who start up many of the small firms outlined in the survey have aims and ambitions for the business, which are not related to the immediate commercial gain. For some the aims are for the maintenance of a desired life style, for others the aim is to create a family opportunity, and for others the aim is to create opportunities not available because of disadvantage on the grounds of gender, or ethnicity, experienced in the wider society: (See for example the work by Deakins and Ram, in Deakins 1996). Some entrepreneurs, whilst still desiring these things as primary goals, may feel under threat because of their specific market position. Thus the owners of small hotels and tenanted pub businesses interviewed in the study, are in a position of threat because of their limited resources and market power. Their perception of the need for an increased array of skills is heightened.

These differences in business aims and objectives is also a factor when attempting to show the impact of management development and small firm performance. Westhead and Storey (1996) maintain that links between the development of managers in small firms and improved business performance is somewhat weak. Some studies do show improvements in performance relating to management training, whilst other do not. In part the problems are due to difficulties with research methodologies which attempt to link performance to a monocausal factor. In part the problem is that attempts to measure business performance are often commercially defined. Success is frequently identified in terms of universal economic indicators when many of these firms are being run by people who have other motives for running the enterprise.

That said, Westhead and Storey do suggest a range of reasons why management development in small firms is less frequently undertaken than in large firms. They suggest that the '*price*' paid by small firms is greater. The market price may be the same, but the opportunity cost of having managers and supervisors away on courses will be greater for the small firm. The second factor which they suggests impacts on the small firm is the reduced '*income*' through which to spread the cost of management development. The third factor they identify is '*taste*'. Here the assumption is that management in small firms do not purchase development programmes for a number of non-price reasons. These firms are frequently driven by short term issues. They do not have an internal labour market, and thereby a need to develop manager progression, and the presentation of programmes may be inappropriate in content and mode of delivery. Finally, the size of small firms often means that managers have to span a wide range of management functions and do not have detailed information about training available.

Conclusions

This paper has argued that much of the management development literature is dominated by the concerns of the development needs of large organisations. Managers running small firms have a wider variety of roles and different priorities than those running larger enterprises. The aims and objectives of the owners of the enterprise are also not always neatly consistent with commercial objectives including business growth and profit maximisation. Many owner/managers, particularly in the smallest firms typically found in cafes - bed and breakfast - small hotels - small restaurants - free houses, etc., have objectives motivated by life style and personal control considerations.

For organisations where the key aims for business operation are to give the owner/manager a preferred life-style, or a degree of personal control not found in traditional work relations, personal development needs will give lower priority to acquiring new business and growth related management skills. Many organisations who have ambitions to improve the performance of small hospitality, tourism and leisure firms continue to address such enterprises as though they were all motivated by prevailing commercial objectives. In effect, the naive assumption is that small firms are waiting to be big, and given enough time, support and advice they will achieve such an ambition. This paper has argued that the picture on the ground is much less clear cut. Organisations seeking to provide management development programmes to the owner managers of small hospitality firms need to target their efforts at the those individuals who will be the most receptive. Our study suggests, that there is a need to identify and target two groups. Firstly, firms where owner/managers have growth related commercial objectives for the enterprise. These will be more responsive to their own development and ability to compete for growth. Secondly, those sectors where owner managers are experiencing a sense of threat due to the pressures of the market place will also yield individuals who will respond more readily to personal development and the skills needed to attain competitive advantage.

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HOW BIG: A PLAN OR ACCIDENT

R. Henry Migliore and Mark Sharfman

Abstract

The question of how big the firm should be is analyzed. Four considerations are discussed. First is the trend in the total market and the behavior of competition. Second is availability of resources. Third, to grow the business. What is the most efficient use of resources? Fourth is the ability/desire of management and the management system. The authors conclude that the organization should plan toward an optimum size. The plan has a five-year horizon. Each year and when conditions warrant, the strategic plan is updated and revised.

1. Introduction

How should the firm grow and expand? The central question is whether to chase the market or control growth. Another question has to do with size of the firm in the long run. Or maybe it's time to retrench? When you chase the market you are reacting to opportunity. This was the strategy of General Patton in World War II: "Take as much ground every day as you can." For the firm, it's expand your market as fast as possible. The notion is "big is better". Many believe the opportunity is there and you better not pass it by or perhaps it is gone forever.

Should the company grow and expand?

While the answer to that question may seem obvious, it is not as clear as it might seem. While we suggest that the company should grow, growth does not always mean expansion. In addition to getting larger, growth may mean getting smaller, better or simply changing into something different. To make the choice as to how to grow and how much, it is necessary to understand why firms should grow in the first place.

1.1 Why should firms grow?

To answer the question-why should firms grow---we must understand how organizations grow as systems. We start with the presumption that any organization is a system. We know that all systems by nature may self-destruct in a process theorists call entropy. Entropy is the tendency for an organized system to become disorganized--essentially to fall apart. We can explain the tendency toward falling apart by borrowing liberally from Newton's laws and applying them to business firms.

1.2 First Law of organizations---An organization at rest tends to stay at rest

We know that organizations don't like to change, that inactivity breeds inactivity and finally complacency. This complacency takes the form of the organizational "couch potato," the firm that has a routine from which it does not want to detour. However, in the rapidly changing world of today's business environment, complacency can spell trouble as we see from the second law.

1.3 Second Law of Organizations---Organizations at rest tend to decay (or at least get in trouble)

There is an old business saying that goes something like "if you snooze, you lose!" While there is much to recommend stability, the business world is not a particularly stable place. As a result, complacency means that firms fall behind technology, product innovation, market changes, customer tastes etc. In fastmoving industries, change occurs at ever increasing rates. The complacent firm falls behind even more rapidly. For example, in the late 1980's both IBM and Compaq seemed to rest on their laurels and didn't maintain their technological edge. As a result, both firms lost market leadership and market share. In fact, they came perilously close to being forced out of the personal computer business.

Even in slow-moving industries, complacency breeds trouble. Even for the fortunate firm that has little effective competition, if skills aren't used they will decay. Prior to the 1981 breakup, AT&T hadn't worried about competition. When the firm was split into the long distance firm and the "baby bells," James Olsen and the AT&T management had to revive long moribund competitive skills. It was a herculean effort to transform the firm back into a competitive organization after decades of the status quo as a monopoly. However, the slide into complacency is not the only problem as we see in the third law.

1.4 Third Law of Organizations---Organizations in trouble tend to get worse!

In his research on bankruptcy, Don Hambrick of Columbia University coined the term "flailing about" to describe the death throes of an organization. When firms decline, panic often sets in so managers start doing anything they can-as long as they are doing something. Hambrick suggests they flail about looking for a solution. As managers get increasingly desperate, they also get increasingly poor at making choices, creating a spiral of decline. American Motors may be a good example of this death spiral. When it became increasingly clear that American Motors could not compete with the "Big 3" or the foreign firms like Toyota and Nissan, they rapidly brought out several new models, tried a wide variety of sales and dealer promotions, sold assets, closed plants and tried to strike deals. In the end, Chrysler got a bargain on the venerable Jeep nameplate and virtually everything else that American Motors had left was worthless.

1.5 How does the firm combat the forces of the three laws?

Beating the inevitable decline described above simply requires planned growth. In our terms, growth means on-going development of the organization and its capacity. However, growth, as we indicated previously does not always mean expansion. Growth can mean getting better. As we mentioned above, AT&T went through a wrenching change in 1981 and again in 1996. In 1981 the firm had to transform itself into a competitive power after decades of complacent monopoly status. In 1996 the firm had to rid itself of an unsuccessful acquisition NCR (National Cash Register) plus get its businesses back to a size that will allow them to change as conditions dictate.

Growth may mean a different direction. The Mother's March of Dimes started out to fight Polio. In 1957 the organization helped Drs. Salk and Sabin defeat polio for good.

Instead of accepting victory and disbanding, the organization took stock of itself, realized the potential good this effective group could do and took on a new challenge. The new focus, birth defects, sadly is one that the organization will have reason to battle forever.

Describing how firms get better or different is beyond the scope of this article. What we can discuss is growth in size. To most people, firms growing means they are getting bigger. We see countless examples of firms expanding from their own success (e.g. Microsoft), from buying up other firms (Disney's acquisition of Capital Cities/ABC) or from merging with equals (Packard Bell's merger with Zenith and NEC's personal computer businesses.)

However, not all size decisions mean the firm is getting bigger. The downsizing rage of the 1990s indicates that many firms have begun to believe that growth can be achieved by getting smaller. Sometimes the leaner size can be very effective. As an example, when the federal government consolidated the Northeastern railroads in Conrail, the combined organization had in excess of 100,000 employees and was losing (collectively) hundreds of millions of dollars. When the U.S. government sold the new Conrail to the public in 1988, the revitalized firm had approximately 36,000 employees and profits in excess of \$200 million. While not all downsizings are as successful as Conrail, the direction of growth does not have to be up.

The central question for managers is one of the how big the firm should be for the long run....

The argument for controlled growth is to be conservatively aggressive. Controlled growth requires more analysis. It is proactive not reactive. In this scenario the opportunity is minimized for costly mistakes.

Peter Drucker, noted business consultant and author, (Drucker, 1973:641) believes a firm has an optimum size in every industry. Good theory, but how does the firm determine size?

An interesting case in point is Johns-Mansville, which wanted to always maintain 20 percent of market share (Doe, 1977: 10) W. Richard Goodwin took over the company in 1970 and aggressively expanded the market share. Growth and earnings were a company record in 1976. Goodwin was removed from office (Buzzel & Gale, p. 12) Because he assumed the need for growth. His assumption was wrong. The Board of Directors wanted to maintain a conservative company.

Another way is to determine the firm's market share in the total market. What are the strategies of your competitor? Are you expanding your share of an expanding market or are you taking customers from your competition?

In order for organizations to respond to the call for growth, each area of the business must have resources. As such, we need to understand the role that resources play. Webster's defines a resource as "something that lies ready for use or can be drawn upon for aid." Traditionally, economists have classified organizational resources into three general categories-land, labor and capital. However, as we will discuss below, several intangible resources are also essential for firm survival.

While having resources is necessary for growth, just having resources is not sufficient. Firms can be in the midst of plenty only to die. An example comes from a software firm that was founded, grew, and died in the early 80s. The company, called Dakota Software, developed inexpensive programming language compilers that would run on personal computers. Each compiler software cost about \$50. While they were not as complete as the compilers that ran on mammoth mainframes, they were perfectly sufficient for most individual programmers. As such, Dakota was able sell millions of copies of their software. The problem was that the huge influx of orders overwhelmed the firm. They did not have sufficient cash flow (resources) to even buy the disks necessary to distribute the software or to print the manuals for their products. In the midst of massive orders for their products, the firm went out of business.

The lesson we learn from Dakota software is that not only does growth require resources per se but requires that the firm have the right amount and types of resources as well. A key part of managing growth is figuring out what resources are needed, in what amounts and when those elements are needed. There are a variety of tools available to managers to help with tangible resource planning so we won't belabor the point here. Inventory and production management tools such as Materials Requirements Planning (MRP), Just-in-Time inventory systems and other production planning tools can help managers determine how much of what resources are needed.

While tangible resources are critical, we suggest that there are several intangible resources organizations also must have in order to grow. We discuss the role that three, key intangible resources play--specifically information, time, and legitimacy.

The phrase "information age" is often used to describe the world today. While the ability to produce things is still valuable, the currency of the late 20th century is information. The role of information is seen most vividly in the growth of "network" organizations. Network organizations are firms that themselves may not produce much (or anything) but rather contract for production and distribution. These virtual organizations parlay information about the capabilities of others into business success. Two well-known examples of network organizations are Nike and Dell Computer. While both organizations have some production capacity, much of what they sell is produced by others under contract. These firms manage information about their suppliers as much as they manage their own plants. Both firms have used this information-intensive approach to achieve massive growth.

Even to more traditional organizations, information has become more and more valuable. With innovation occurring in both technology and finance at increasingly faster rates, the firm that cannot process these changes will be left behind. Further, the advent of powerful database management tools gives firms vastly improved ability to process information concerning their customers and target markets. The increased precision that these new tools provide may make the difference between success and bankruptcy. The above examples are but a few reasons why, in order to grow, firms have to manage information as a resource. As the firm decides how much it wishes to grow, it can decide how much information it needs to manage that growth.

The second intangible resource critical to firm growth is time. As we discussed above, as we enter the 21st century, the pace of change is increasing. If firms wish to grow, they must put "time on their side." A vivid example of how time can defeat a growth strategy came in the early 80s during the beginnings of the take over battles that were to epitomize that era. When Conoco became a takeover target, several firms were in the thick of the battle. One of the combatants-Texaco however, came under the anti-trust scrutiny of the U.S. government costing the firm precious time. While many analysts of the era suggested that Texaco's bid was a better deal for Conoco shareholders, Texaco ran out of time while being stalled by the Justice Department's inquiry, resulting in the victory to DuPont. Texaco's growth plans were stopped because of time as a critical resource. The management of growth requires sufficient time in which to allow that growth to occur in a planned way.

The last intangible resource that is critical to organizational growth is legitimacy. Bill Scott and John Meyer (1983) defined a legitimate organization as one "about which no question could be raised" (p. 201). There are two types of legitimacy-market legitimacy and social legitimacy. Society confers market legitimacy when it determines that there are no (few) questions that can be raised about the firm's products or services or and confers social legitimacy when there are no concerns about a firm's behavior as a member of society. You cannot go down to the corner, store and buy legitimacy (although many firms have tried). It has to be earned and regularly maintained. Interesting examples of firms facing market and social legitimacy concerns are Sony and Betamax for market legitimacy plus McNeil Labs (Johnson and Johnson) and Tylenol for social legitimacy. In the Sony Betamax case, it was widely acknowledged that the "Beta" format was technically superior to the VHS format for home videotape recorders. However, consumers selected (legitimized) VHS as the format of choice. As the movie studios put fewer and fewer

titles out in Beta format, Sony was not allowed to grow with the brand to the point where they eventually had to pull the product altogether.

In the case of Johnson and Johnson's McNeil Labs and Tylenol, social legitimacy helped the brand grow. After the second series of poisonings using tainted Tylenol, Johnson and Johnson's McNeil Labs pulled Tylenol capsules off the market saying that the firm could not guarantee the safety of the product. The firm took a charge in excess of \$250 million causing Johnson and Johnson's first quarterly loss in decades. However, within a year, society's reaction to the firm's response was to increase Tylenol's market share by seven (7) percent. Consumers saw the firm's forthright response to the crisis as deserving of even more social legitimacy and hence were more willing to buy the product.

In all of the above examples, we see how intangible resources helped or impeded growth. Unfortunately, there are no software tools to help managers determine how much in the way of these intangible resources are necessary for growth. Rather, each manager must rely on his or her knowledge, background and training to make that decision. Here are some guidelines to help managers decide how much of each tangible resource is necessary—depending on how much the firm wishes to grow.

The key to management of intangible resources is the recognition of their importance. Again, intangibles are just as critical to success as the tangible elements in the firm—in some cases more so. Managers must not only recognize this fact themselves but also communicate the importance of intangibles to every member of the team.

Secondly, managers must realize that the acquisition and maintenance of intangible resources has a cost just like those of tangible resources. Some of those costs are fairly obvious e.g. gathering, storing and processing information has clear costs for equipment and staff. With the goal of legitimacy, the costs may not be as clear. In any case, it is essential that managers understand what these intangible resources cost and manage these costs just like any other resource.

Further, as with all costs in firms, there is a point where More is not better regardless of the resource. The cost of acquiring or maintaining any intangible resource may outweigh its benefit. While it is likely that one can only crudely estimate the cost and benefits of intangible resources, it is essential that these estimates are made. As the costs of acquiring and maintaining intangibles are often buried in overhead, the firm can run up huge charges rapidly unless a close watch is kept. These charges will deprive the firm of needed cash resources in the service of elusive intangibles. As we saw in the Dakota Software example above, even in the midst of plenty the firm can starve to death.

Finally, in the management of intangibles, managers must learn to tolerate ambiguity. With cash or inventory, it is pretty clear when the firm has a sufficient amount of the resource. This is much less likely with intangibles. How much information is enough? How legitimate do you need to be given the size you wish to have the firm achieve? These are questions for which there is likely not a good answer.

Even if there is a good answer, it is likely that the answer will change rapidly. Tolerating and managing the ambiguity inherent in the use of intangible resources are capabilities that managers must develop in order to be successful. As managers decide how much to grow, they will have to decide how much of what type of both tangible and intangible resources are necessary for that growth. It is through the efficient management of these resources that the firm will be able to operate at its ideal point—the bottom of the long-run average cost curve.

After making this determination, consideration must be made on the effects growth strategy has on production, plant capacity, quality, finance, transportation, engineering, human resources, etc. Every idea of the business must respond if the firm chooses to grow.

The closer the firm operates at the bottom of the long-run average curve, the better its opportunity to use pricing at a competitive strategy. Notice how Wal-Mart uses low prices because of controlled costs as a competitive advantage.

Drucker (1973:638) emphasizes the need to manage increased complexity. Even if every other factor falls in place, does management have the ability to manage the new proposed growth? Can a Piper Cub pilot fly a 747? Can the management team grow in philosophy, planning, communication and delegation? Even Henry Ford at Ford Motor Company and IBM's Thomas J. Watson had problems.

1.6 Resources and Growth

In order for organizations to respond to the call for growth, each area of the business must have resources. As such, we need to understand the role that resources play. Webster's defines a resource as "something that lies ready for use or can be drawn upon for aid." Traditionally, economists have classified organizational resources into three general categories-land, labor and capital. However, as we will discuss below, several intangible resources are also essential for firm survival. (Scott & Meyer, 1983). Another way to view long-term success of the firms is with the formula:

$$X = f(a,b,c,d,e, \dots ?)$$

The (X) represents the dependent variable, long-term success. In the formula, X is function of the various combinations of independent variable, a,b,c,d,e, on to infinity. The discussion could be expanded to independent variables; political climate, national monetary policy, national security, organizational culture, technology, etc. For example in the best case scenario, long-term success (X) for Wal-Mart could be a function of market share and quality, which according to the PIMS (Buzzel & Gale) model, are the two most important variables. Other independent Wal-Mart variables: expanding market, weak competitor (K-Mart) successful management taking over for the late Sam Walton, with favorable U.S. economic conditions, low interests rates, etc.

A worse-case scenario would feature many of the medium-size firms in Mexico. Let's say half of the products/service of a Mexican company are exported into a foreign market, they are operating an efficient, cost-conscious manufacturing operation at near the bottom of the long-run average cost curve. Two important variables, yes!! But realistically the peso is at an all-time low exchange rate and the political climate is uncertain. You can be sure problems with inflation are just around the corner in Mexico.

2. Conclusion

Our recommendation is a thoughtful, creative approach to strategic planning. The strategic plan is developed by taking all factors into consideration. This process forces the size decision. The options could be to double in size, have modest growth or as we have seen in the past decades-downsize. The emphasis here is proactive planning. Too often, for example downsizing is in small increments. It is like cutting the dog's tail one segment at a time. Every cut is painful. A better approach is proactive retrenching and then an aggressive scaled-back attack plan.

Too often a company chasing the market with uncontrolled growth ends up with disillusioned leaders, harassed management, confusion, declining quality, and poor customer service. It can be likened to an army out-running its fuel and food. The excitement of the rapid advance is sobering as the firm (and the army) become vulnerable to attack mired in their self-imposed quicksand.

We believe the long-term size based on revenue should be established. Short-term targets are developed to control and coordinate the growth.

As conditions change, the plan can be altered. The size decision once made, is not cast in stone. A little farfetched, but who is to say that Wal-Mart might not buy out the weakened K-Mart? Perhaps the current Wal-Mart plan calls for modest growth over the next four years. A K-Mart takeover. . . could be too tempting.

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INITIAL CONDITIONS AS PREDICTORS OF NEW VENTURE PERFORMANCE: A REPLICATION AND EXTENSION OF THE COOPER *et al.* STUDY

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Abstract

In the words of Hubbard, Vetter and Little (1998, p. 252), 'systematic replication replaces piecemeal, untested results with useful findings that address practical problems.' We agree with this, and we further hold that for empirical relationships to be really interesting and meaningful one should be able to make a strong case that they represent causal and generalizable relationships and that they can be given a meaningful theoretical interpretation. In this study we try to adhere to such ideals by replicating and extending a theory-driven study of the effects of initial conditions on new venture performance (Cooper, Gimeno-Gascon & Woo, 1994) using a very large (7000+ cases) and high quality, longitudinal data set, where data on initial conditions were collected in 1995 (within a year after first registration) and outcomes were assessed in 1998. On a conceptual level, our results confirm those obtained by Cooper *et al.* (1994) regarding how general human capital, management know-how and industry affect marginal survival probability, as well as concerning the effects of financial and general human capability on the likelihood of becoming a high performance venture. The results sometimes coincide also on a very detailed level, such as the differential effect of gender on marginal survival vs. its effect on high performance. Other parts of Cooper *et al.*'s (1994) result could not be replicated. To some extent this may be due to weak operationalizations of certain constructs, but real sample and/or country differences may also play a role.

1. Introduction

The ability to predict new venture performance based on observable initial factors is something that seems to intrigue many researchers in entrepreneurship, and rightly so. The economy of such a faculty would benefit society at large as well as its individual entrepreneurs, since it could prevent resources from being used in vain or with a less than optimal allocation. However, all forms of forecasting have their limitations and in this case the chief obstacle is the inherently stochastic nature of business venturing. No matter how well the individual is prepared, the unforeseeable is bound to happen sooner or later. Adverse events are often overcome by the enterprise but eventually some of the new ventures will come to a point where resources available just do not match the requirements. The idea of picking the winners among new businesses solely based on initial factors seems too much to hope for, but if we are to find explanations for systematic variation in young enterprises' ability to survive, the first place to look would be the initial resource endowment. Resources, in the form of financial and human capital, could be viewed as means to overcome adverse shocks to the infant business. Several researchers have looked into this area, most notably Cooper and associates (Cooper, 1995; Cooper & Gimeno-Gascon, 1992; Cooper, Gimeno-Gascon & Woo, 1994; Dunkelberg, Cooper, Woo, & Dennon Jr, 1987; Woo, Cooper, & Dunkelberg, 1988; Woo, Cooper, & Dunkelberg, 1991; Woo, Cooper, Dunkelberg, Daellenbach, & Dennis, 1989).

As noted by several authors, entrepreneurship studies are largely incompatible (Cooper *et al.*, 1994; Low & MacMillan, 1988; Storey, 1994; Wiklund, Davidsson, Delmar, & Aronsson, 1997). As a consequence, our knowledge about entrepreneurship is fragmented and incoherent. The lack of replication is one aspect of this problem that entrepreneurship research shares with the broader domain of business studies (Hubbard, Vetter &

Little, 1998). We agree with these authors that 'The goal of science is empirical generalizations or knowledge development. Systematically conducted replications with extensions facilitate this goal.' (Hubbard *et al.*, 1998, Abstract). The present study attempts to avoid fragmentation and contribute to cumulative knowledge by replicating -- to the extent possible -- the study carried out by Cooper, Gimeno-Gascon & Woo (1994) in a new empirical context. To the extent results are replicated, this validates the findings in both studies. Our study also constitutes an extension of Cooper *et al.*'s (1994). Like them, we use a very large random sample with data collection from different points in time.

2. Theory Development and Hypotheses

In their original paper, Cooper *et al.* (1994) specifies initial conditions in terms of four groups of initial capital. The first, *general human capital* concerns knowledge that could lead to higher productivity and access to network resources due to the general background of the entrepreneur. The second, *management know-how* focuses on the entrepreneur's previous experience with general management tasks. This is mainly a question of tacit knowledge acquired through vicarious learning or by actually performing management tasks. The third factor, *industry-specific know-how*, may play an important role in the understanding of "how business is done" in a specific context of suppliers, competitors and customers. This knowledge is mostly tacit and costly to build up if the entrepreneur has no previous experience from the industry where the new business is established. The fourth group, *financial capital*, is probably the most tangible form of capital, acting as a buffer and giving greater freedom in exploring different strategies.

In our replication we use indicators for those four categories, although we do not always have access to exactly the same measures or variables as those used by Cooper *et al.* (1994). The fact that we do not always have access to the same variables is, of course, a drawback from a strict replication perspective. It might be argued, however, that if we are able to replicate results with slightly different indicators of the theoretical variables, then the basis for generalization becomes even stronger on the conceptual level. Hence, the use of other specific indicators may be regarded an extension of Cooper *et al.*'s (1994) analysis.

We also extend our study by adding a fifth category, which Cooper *et al.* (1994) did not capture, *access to market and resources*. Like them we also investigate industry differences. While industry is considered a control variable in the sense that it is not conceived of as representing a particular type of 'initial capital', directional hypotheses are nevertheless formulated for the effect of industry affiliation.

In developing hypotheses for our replication we could choose either of two routes. One alternative is to model our hypotheses on the *results* of the Cooper *et al.* (1994) study and the other alternative would be to use their original *hypotheses* as our model. We have chosen the latter alternative. The main reason for this is that we in most cases regard the total backing of a hypothesis as heavier evidence than the results of a single empirical study. We will, of course, comment on our results also in relation to the results obtained by Cooper *et al.* (1994). We would argue that results where both studies either support the original hypotheses or deviate in the same way have the highest level of credibility.

2.1 General human capital

In their original study Cooper *et al.* (1994) included education, gender and ethnic minority to represent this category. Due to data constraints, the present study replicates only gender and replaces ethnicity with immigrant status. The conceptual argument about the difficulties of ethnic minorities in the U.S. applies fully to immigrants in the Swedish setting. Gender and ethnicity are demographic variables that are expected to determine the opportunities for the individual to gain relevant experience and develop valuable network contacts. It is expected

that women have less such opportunities than men do. Further, having a non-Swedish background is believed to lower the access to situations where relevant knowledge could be gained. Thus, we propose the following:

- *H1: Probabilities of marginal survival and high performance are lower for female entrepreneurs*
- *H2: Probabilities of marginal survival and high performance are lower for immigrant entrepreneurs*

2.2 Management know-how

To test this factor, Cooper *et al* (1994) included presence of a parental role model, entering from outside the workforce or from non-profit organization background, level of management experience, use of professional advisors, and the presence of partners (team vs. solo start-up). We unfortunately lack exact parallels to these specific measures. The second category largely overlaps entering start-up from unemployment status, on which we have data. Unemployment in itself could lead to a loss of resources in professional networks as well as a general deterioration of professional skills. It is therefore reasonable to conclude that enterprises started by individuals indicating unemployment as their primary start-up motive would be less likely to achieve high performance. We also have two other strong indicators, i.e. variables that clearly belong conceptually to this category. These are previous start-up experience and participation in start-up training prior to start-up. Start-up courses are aimed at providing management know-how for the start-up phase and should therefore be expected to improve performance. Experience from previous start-ups provides the entrepreneur with tacit knowledge about the processes involved in getting a business up and running. This is not necessarily specific to the actual industry but rather to the managerial situation of start-ups. This knowledge should improve the odds of "getting things right". The preceding discussion leads to the following hypotheses:

- *H3: Probabilities of marginal survival and high performance are lower for entrepreneurs who started their business for unemployment reasons*
- *H4: Probabilities of marginal survival and high performance are higher for entrepreneurs who participated in start-up training prior to start-up*
- *H5: Probabilities of marginal survival and high performance are higher for entrepreneurs who have prior start-up experience*

2.3 Specific industry know-how

For this dimension Cooper *et al.* tested but one hypothesis, based on an index variable reflecting the similarity between the start-up business and the organization in which the founder worked prior to start-up. We do not have access to the items in that index, nor to a direct measure of in what industry the founder worked prior to start-up. It may therefore be the case that our indicators for this factor are particularly weak.

The insights gained through experience in a specific industry should lead to a greater ability to develop business ideas relevant to that specific industry as a response to a market need or market opportunity. We therefore argue that entrepreneurs who start their business primarily motivated by the possibility of realizing a specific business idea, or as a response to a perceived market need, have greater specific industry know-how than those who start their business for other reasons such as unemployment, a quest for independence, or a desire to make more money. We consequently hypothesize a positive relationship between these two start-up motivations and performance.

- *H6: Probabilities of marginal survival and high performance are higher for entrepreneurs who started their business in response to a market need*
- *H7: Probabilities of marginal survival and high performance are higher for entrepreneurs who have started their business to realize a business idea*

2.4 Financial Capital

The amount of capital raised at start-up could be expected to increase the chances for the new business to survive and prosper. Financial capital provides a buffer against unforeseen difficulties which may arise from environmental changes, poor management etc. (Castrogiovanni, 1996; Cooper *et al.*, 1994). Financial capital also provides organizational financial slack, facilitating necessary changes in response to changing conditions and increasing the willingness of the firm to innovate and change (Castrogiovanni, 1996; Zahra, 1991). Thus, the access to more financial capital at start-up should have positive performance implications.

There are many possible indicators of initial financial capital. Cooper *et al.* (1994) used the reported amount of capital invested by the time of the first sale to investigate the effect of initial financial capital. For our study we choose instead to use the firm's legal form at entry, and whether or not it has received an 'enterprise allowance'. Incorporation reflects a major element of financial commitment since Swedish entrepreneurs need to raise a minimum of 100 000 SEK (app. 12 500 USD) to start a corporation. Receiving an enterprise allowance means that the founder receives a steady income (equal to unemployment allowance) during the first six months. This effectively means an increase in the amount of capital available to the entrepreneur. Following the previous discussion, we hypothesize that incorporation and enterprise allowance are factors that are positively related to performance.

- *H8: Probabilities of marginal survival and high performance are higher for entrepreneurs who received public, financial start-up aid (enterprise allowance)*
- *H9: Probabilities of marginal survival and high performance are higher for entrepreneurs who started incorporated companies*

It should be noted, however, that as enterprise allowances are given to unemployed founders only, one cannot expect H8 and H3 to be simultaneously supported by the data.

2.5 Access to market and resources

Indicators pertaining to financial and human capital are specific to the individual or the firm. However, the environmental context at start-up is also likely to affect the subsequent performance of the new venture. The geographic area where the business is launched has implications for its access to markets and resources. Venturing in a metropolitan area could be an obvious advantage when doing business in specialized services or retailing, since such businesses require a large absolute population base in order to reach a sufficient local market sharing the specialized interest or need. Agglomeration may also increase availability of labor and sub-contractors in any industry. Further, we know from previous studies that variables such as the size, density and growth of the human population tend to be positively related to both gross and net new firm formation rates (Davidsson, Lindmark & Olofsson, 1996). Hence the following hypotheses:

- *H10: Probabilities of marginal survival and high performance are higher for firms in metropolitan areas*
- *H11: Probabilities of marginal survival and high performance are lower for firms in rural areas*

While these hypotheses may seem intuitively appealing, it should be noted that a valid counter-argument, at least regarding survival, is that if business founders' expectations are rational and reality-based, there is no reason to expect higher failure rates in relatively deprived regions, as their relative deprivation would affect *gross* start-ups already. As regards growth it may be argued that agglomeration does imply markets and resources, but also increased competition for those. Only empirical analysis can decide what line of argumentation is the more valid.

2.6 Control variable: industry

With regard to industry, Cooper *et al.* (1994) hypothesize, mainly on the basis of previous empirical results, that probabilities of survival and growth are lower in retailing and personal services. We agree that these are plausible assumptions. Hence:

- *H12: Probabilities of marginal survival and high performance are lower for firms in the retail and personal service sectors*

3. Method

3.1 The Sample

The sample of 7 256 new enterprises used in this paper was obtained through collaboration with The Swedish National Board for Industrial and Technical Development (NUTEK) and Statistics Sweden. The sample has been surveyed twice, with measurement of initial conditions in the first survey and the basis for performance classification in the second, see Figure 1 (omitted).

In more detail, the sample was created in the following way. In February 1995, a sampling frame was constructed by Statistics Sweden, covering all legal forms of business activities registered during 1994. To be considered a registered business activity (or enterprise) in this sample, the business founders do not have to make any *formal* registration with a business register. Reporting VAT (moms) or income from a business activity in the personal income statement is sufficient. Using extensive cross-referencing across four different registers, 74 600 new business registrations were made in Sweden during 1994. From this first sampling frame, 14 500 businesses in agriculture, forestry, hunting, fishery and real estate were excluded. Another 2 700 business registrations in various industries were also excluded since it could be clearly established that they were take-overs. Consequently, the final sampling frame consisted of 57 400 newly registered enterprises, from which a proportional stratified sample of 14 000 was drawn. Strata were constructed according to industry, legal form and geographical location (county). A mail questionnaire was sent out to the businesses in the final sample, ultimately yielding a response rate of 86%. This is an unusually high figure for an inquiry by mail and was in part due to the fact that the core questions were part of a compulsory business survey. Also, extensive use of telephone interviews in case of non-response in the mail survey contributes considerably to the final results. Out of the approximately 12 000 responses, 7 256 fell into the definition of *genuinely new enterprises* and these were selected for the follow-up. According to the definition provided by NUTEK and Statistics Sweden, a *genuinely new enterprise* has to be **a new business activity in a new (independent) legal entity**. It cannot be a take-over or a mere re-registration of an already existing business. In August 1998, a second wave of questionnaires was issued to all of the 7 256 enterprises that were recognized as genuinely new enterprises in the first survey. A similar method of inquiry was used, but there was a heavier reliance on telephone interviews to minimize non-responses.

Out of the 7 256 businesses that were selected for the second wave, responses were obtained from 6 377, resulting in a response rate of 87.9%. However, in 97 cases the original business had been sold or merged with another firm. Although these firms were obviously surviving at the time of sale, they were excluded from further analysis since it would be difficult to assess the performance of the original activity, both conceptually and empirically. It should be noted that only 0.8% of the firms in this sample were actually sold, less than 1/5 of the share registered in the study of Cooper *et al.* (1994).

Businesses that were non-response cases in the mail survey became the objects of intense investigation to try to contact individuals connected to these businesses. Since some of the questions in the follow-up were compulsory, simple refusal to answer was extremely rare. The final non-response cases are those businesses that could not be contacted by any means (telephone or mail). Since access to register information on the non-response businesses was not an issue, a common characteristic of the final nonresponses was a protected telephone number or no listing. It would be very difficult to do business under such circumstances and it is likely that these businesses have suspended operations, be it temporarily or definitely. The non-response cases in the follow-up survey are therefore considered as failures (not active) and these cases are therefore included in the analysis.

The method used to produce this sample has the advantage of excluding businesses that are not new. In Sweden, no less than 48% of all new business registrations are not new business *activities*, but merely existing business activities put into a new legal entity. Consequently these firms do not fit into the conceptual description of new enterprises. If questions concerning the impact of founding conditions should apply, these businesses must be excluded through a selection process similar to the one used for the present paper.

Our sample is reasonably similar to that used by Cooper *et al.* (1994). Their original sample consisted of 13 000 NFIB members, out of whom 4 814 of whom responded and 2 994 qualified as having 'become business owners in the last 17 months'. Hence, the Cooper *et al.* (1994) study started with a sampling frame that had a greater risk of bias. Further, their study had a lower response rate and was less restrictive in demands that the start-ups were 'genuinely new'.

3.2 Variables and measures

Independent variables. All independent variables are dichotomous (zero/one) category variables. They were all measured during the first wave in 1994 or were taken from data registers from 1994. The gender (female), enterprise allowance and 'prior start-up experience' variables are straightforward and self-explanatory. The standard Swedish classification of immigrants was applied (i.e., self, one or both parents born in other country). To measure start-up training, respondents were asked if they had participated in any start-up course in conjunction with the start-up of their firm.

Respondents were asked about their most important motive for starting their business. Five alternatives were predefined, and respondents were asked to choose one of these or to specify their own motive. One alternative was unemployment (chosen by 24% of the respondents), another realization of ideas (24%), and a third was the identification of a market need (6%). Dichotomous (zero/one) variables were computed for these response categories.

Register data from the sampling frame were used for legal form of the company (incorporated/limited liability vs. all other), its principal industry (one dummy for retailing and personal services combined) and location. The latter variable was re-coded into two dichotomous variables. The variable 'metropolitan' was coded one (1) for greater Stockholm and zero (0) for all others. The 'rural' variable was coded one for the inland regions in the northern two thirds of the country, and zero for all others.

Dependent Variable. Following Cooper *et al.* (1994), new venture performance was classified into three mutually exclusive and collectively exhaustive categories. We use the labels *failure*, *marginal survival* and *high performance* for these, although 'not active' may be more correct than 'failure' and people may have different opinions about what is 'marginal' and 'high', respectively.

There is an ongoing discussion on suitable indicators of new venture performance (cf. (Brush & Vanderwerf, 1992; Wiklund, 1998). Generally speaking, broad measures reflecting multiple aspects of both growth and economic performance are preferable (Wiklund, 1998; Zahra & Covin, 1995). Most notably, it is important to consider that firms may deliberately trade off long-term growth for short-term profits (Zahra, 1991). Hence, three different indicators reflecting growth and economic performance were chosen: sales growth, employment growth and profitability. In order to be classified as a high performance new venture, the firms had to meet either of three minimum requirements. Either the firm had to employ 2 full-time equivalents in the beginning of 1998, or have reached sales during 1997 of a minimum of 1 MSEK (appr. 125kUSD), or be perceived by the entrepreneur as having "very high performance" and "providing well for me". This means that we employ a more comprehensive assessment of 'high performance' than did Cooper *et al.* (1994) who relied solely on an employment growth indicator. With these definitions, 43% of the cases are classified as failures (not active), 36% as the marginal survival, and 21% as high performance.

4. Results

4.1 Bivariate Analyses

We will start our presentation with bivariate analyses. We will then turn to a multivariate analysis estimating a multinomial logit model with the LIMDEP software.

This is the same technique as used by Cooper *et al.* (1994), who also provide a more elaborate description of it. Owing to the categorical nature of the variables, the hypotheses were tested using contingency tables and Chi-square test of significance. Due to the large sample size (7000+ cases), very small effect sizes yield highly significant chi-square statistics. Consequently, stricter criteria than the conventional $p < .05$ are called for. However, effect size rather than significance should be the first concern (Oakes, 1986). To give a relatively neutral measure for the effect sizes, the observed counts in all cells are subtracted and divided by the expected count. This yields a figure of the relative under- or over-representation in all cells, making results from different analyses more easily comparable. For example, a cell count of 60 and an expected count of 50 yields a figure of .2, equaling an over-representation of 20%. Contingency tables testing dichotomous variables contain two rows. For ease of reading, only the rows corresponding to the tested hypotheses are presented in the tables below. For example, the relative under- or over-representation figures of females but not males are presented in Table 1.

The results from the tests of the two first hypotheses concerning access to general human capital at start-up are displayed in Table 1. Both hypotheses get partial support. These two strands of general human capital seem important for high performance but not for marginal survival. Females start high-performance firms to considerably less extent, as do immigrants.

Table 1. The impact of general human capital on new venture marginal survival and high performance

<i>Hypothesis tested</i>	<i>Relative under- or over-representation</i>			
	<i>Failure</i>	<i>Marginal survival</i>	<i>High performance</i>	<i>Significance</i>
H1: Female	+10	+10	-37	p<.0005
H2: Immigrant	+11	0	-21	p<.0005

Note: Relative over- or under-representation is calculated as (cell count - expected cell count)* 100/expected cell count. Column-wise percentages do not cancel out perfectly due to unequal base rates.

Table 2 displays the results from the tests of the three hypotheses related to management know-how. Hypotheses 3 and 4 are clearly not supported, since no significant differences prevailed. The start-up of a firm for unemployment reasons does not seem to affect either the survival or the performance level of the firm. This runs counter to widespread beliefs that firms started as a response to unemployment are lower-potential ventures. Start-up training does not have the hypothesized positive impact on future survival and performance. Strong partial support is achieved for the fifth hypothesis. While ventures started by experienced business founders do not have higher survival probability they are much more likely to be found in the high performance group.

Table 2. The impact of management know-how on new venture marginal survival and high performance

<i>Hypothesis tested</i>	<i>Relative under- or over-representation</i>			
	<i>Failure</i>	<i>Marginal survival</i>	<i>High performance</i>	<i>Significance</i>
H3: Unemployment	-3	-2	+9	p=.084
H4: Start-up training	-3	+4	-1	p=.483
H5: Start-up experience	-2	-17	+35	p<.0005

Note: Relative over- or under-representation is calculated as (cell count - expected cell count)* 100/expected cell count. Column-wise percentages do not cancel out perfectly due to unequal base rates.

In the next step of the analysis, the two hypotheses relating to industry specific knowledge are tested. These hypotheses state that the start-up of a firm in response to a market need or to realize a business idea should be positively associated with survival and high performance. Neither of the analyses yielded significant results, as can be seen in Table 3. Thus, neither hypothesis related to industry specific know-how is supported. It may come as a surprise that the 17% over-representation in the high performance group for 'market need' does not yield a significant result with such a large sample as this. The explanation is the low absolute number of respondents choosing 'market need' as the most important start-up reason. The group differences seem less impressive when expressed differently: while 5.2% of the marginal survival group has market need as the primary motivation, the corresponding figure in the high performance group is 6.7%.

Table 3. The impact of industry specific knowledge on new venture marginal survival and high performance

<i>Hypothesis tested</i>	<i>Relative under- or over-representation</i>			
	<i>Failure</i>	<i>Marginal survival</i>	<i>High performance</i>	<i>Significance</i>
H6: Market need	-2	-9	+17	p=. 135
H7: Realize idea	+1	+5	-10	p=.033

Note: Relative over- or under-representation is calculated as (cell count - expected cell count)* 100/expected cell count. Column-wise percentages do not cancel out perfectly due to unequal base rates

IMMIGRANTS OF AFRICAN ORIGINE AND ETHNIC ENTREPRENEURSHIP

Placide Muamba Mulumba and Aurélie Potakey

Abstract

Being confronted with new challenges and the necessities of social change, recent immigrants of African origine living in Europe, increasingly draw support from their socio-cultural traditional systems to further their economic activities. They find in their culture and spirituality the meaning of their life and an alternative to social exclusion. Thanks to a deep sense of collective solidarity, certain ethnic communities create numerous networks that bring together family members, or inhabitants of the same neighbourhood or village. They put their resources together and have access to these collective funds either by taking turns or in exceptional circumstances. They therefore transform their living environment and considerably improve their social welfare. Ethnic enterprise which is a means of integration, reveals rich and varied forms of economic self-organisation. Entrepreneurial action will therefore be examined here as a cultural construct because of the fact that the dynamism of a community can be understood by analysing the means that a community gives itself to determine its existence at a precise moment in history. Hence in this period of globalisation on the one hand, and the increase of social exclusion on the other hand, it seems to us important to reflect, in a comparative approach, on the contribution of Asian and African immigrants, on their socio-cultural characteristics and on the factors of social change which could inspire the host society. Tomorrow's society will be no doubt the result of a dynamic and new interaction between external influences and local cultures.

1. Introduction

Certain European cities are experiencing an unusual activity linked with the emergence of economic activities resulting in the dynamism of non-European immigrants. It concerns a phenomenon, which promises to become more and more important. In addition to this it constitutes the remarkable facts of recent social and economic history. One must also note that it plays a major role in the organisation and development of several cities in the West. However, the uniqueness of this process lies in the way that the instigators of these initiatives resort to their social capital to control urban space.

It is important at a time of globalisation on one hand and the rise of social exclusion on the other, to reflect upon, from a comparative angle, the contribution of African immigrants, their socio-cultural characteristics and the factors of social change to which a host country would eventually be able to aspire. In this context, the enterprise creation movement by the immigrant as a solution, in terms of activity, to the economic crisis constitutes a particularly original approach, which deserves to be better recognised. The goal of this study is, amongst others, to evaluate the experiences and initiatives of the immigrants and to reflect over the likely ways and means they benefit others. This paper is sub-divided into two parts; the first, which is the theory, deals with immigrant company ethics and the second analyses the results of a survey on ethnic entrepreneurs in Brussels.

2. Short background about the immigration problem

Between 1945 and 1962 immigration in Belgium was not possible unless the immigrants had a specific work contract for a clearly determined job. This movement was favoured by the *accords de main d'œuvre* signed with Italy (1946), Spain (1956), Greece (1957), Morocco and Turkey (1964). Certainly the new arrivals found work, the authorities accepted the foreigners who came to Belgium with a simple tourist passport and the situation was 'regularised' on the spot as soon as an employer signed an employment contract (Dasseto, 1988).

It was not until 1967, after the economic recession that the control of the regularity of immigrant workers came into force. Since 1974, the immigration of low skilled workers was practically halted. With the crisis of unemployment many immigrants found themselves out of job. For a good many of the 'first generation' immigrants a double dream faded away: to have a better purchasing power or to pursue the good life through a regular job and to hope that their children would be more successful than they have been through better education.

We can again note that the presence of immigrants in the country within the European context is considered temporal and immigration is treated more like a flux. Moreover, the duration of stay given is short and it is not automatic to prolongation or renewal thus producing social marginalisation.

But for the immigrant this was not necessarily seen as marginalisation as such because they always have the dream to return to their countries of origin and are willing to accept what they see as some temporal inconvenience. The immigrants in effect had a double situation. Their relation with the host population is a combination of solidarity and hostility because the presence of immigrants in the country is often seen as competition for jobs and other social services with the indigenous population. This inquietude grew with the new current of immigration, which began in the last half of the 1980s. The new wave is characterised by clandestine jobs 'black work', irregular, and are recruited more and more from Asia, Africa and Europe under the guise of political 'refugees'.

This ambiguity is observed equally among the young people. They have a family background that gives them a different experience from their indigenous counterparts. Moreover the receiving country does not include the story of immigration in the national history whereas immigration has had three generations and constitutes 15% of the population. This is more especially as we observe the new population permanent phenomenon in the Belgium society.

This new population does not function in the same way of life like indigenous Belgians. The receiving country allots to the immigrants a lower social condition. Some immigrants of the first generation, especially their children and grandchildren have specific professional careers. Thus they are looking for change in the norms of the avenues open to them. The result would depend upon the possibilities available. The forms of this social dynamics can be very diverse. It could consist of a tentative insertion by the individual into the social structure or a strong utilisation of the ethnic network to re-inforce a social and economic strategy. It means for instance the development of small enterprises, craftsmen, and petty trading (Dasseto, 1985).

3. Immigrant entrepreneurial spirit

Immigration experts confirm more and more what Ivan Light already stated a long time ago, that is understanding the large propensity of immigrants to create their own employment. They perceive this creation as a solution to combat discrimination, which hits the immigrants in the work place and forces them to find precarious niches in which to survive. This image of resorting to desperate measures as being a solution continues however to be a widely held opinion amongst social science researchers, despite recent findings which show that self-employment

could also serve to lever economic promotion. In fact, the findings of Mr. Light, that immigration and self-employment go hand in hand remains fully valid to this day.

Certainly not all immigrant groups show an aptitude for launching small businesses, but where it is the case, their self-employment rate is often double that of the native population, for example in North America, and it is often triple that of the minorities born there. What is more, the incomes of wage earners are exceeded by these self-employed immigrants who seek to put into perspective the notion that small ethnic enterprises are exclusive refuges against poverty and discrimination in the labour market (Portes, A and M. Zhou, 1995). On the contrary we believe that there is room to interpret self-employed work as a sign of the role played by ethnic enterprise as a means of allowing immigrants and their communities to come through these difficulties and integrate themselves into the national economy. This is one of the principal hypotheses of this research.

3.1 Some determining factors

Usually the sociology of immigrant minorities identifies several essential factors that explain why certain immigrant groups find it easier to succeed in entrepreneurial undertakings and in certain cases have more success than the native population. It principally concerns ones' personal resources, the individual characteristics of the immigrants, the ethnic and collective resources, and the network which they build up. In the formal network one essentially finds churches, ethnic associations, trade unions, employers' associations and so forth and in the informal network there are the intermediaries, and make possible their integration into their new society. Functioning as substitutes for families, these networks put the immigrants in a more competitive position within their new society (Mc Cormack, A.R, 1998).

It is clear that the immigrant groups that take with them social capital a bank of knowledge and a wealth of techniques not to mention financial capital have a better chance of succeeding in business. In the case of France, for example, the hundred small Parisian entrepreneurs of Chinese origin whom Thierry Pairault investigated seemed rarely to have disposed of the personal resources described in the theory. Similarly the financial capital that they expend in a private capacity seems relatively small in the light of the fact that their savings are mainly from salaried work carried out in France rather than from a bank of wealth accumulated prior to their emigration. The same observation was made about the Morocans living in Belgium.

Lacking in his own capital, an immigrant could theoretically use the resources of his group. In fact, thanks to a strong sense of collective solidarity some ethnic groups rather spontaneously form multiple limited associations inclusive of family members, shopkeepers, craftsmen, employers and workers from the same town or village. They pool their resources together to become more powerful or in the case of exceptional circumstances are able to call upon their collective funds. By this they are transforming bit by bit their way of life and are considerably improving their social wellbeing.

It is most evident that the family networks and relations, thus made, give the resources much more importance than if one was to look at each small and individual business on the same scale. Every entrepreneur is in fact linked to other families and other businessmen in several towns. This organisation allows for the acquisition of consumer durables, social facilities such as schools, crèche, cultural centres and even to the extent of constructing *cult* places. On this basis, certain parts of Toronto, Montreal, Paris and Brussels (Ixelles for example) which were formerly repulsive are today becoming attractive. It is however true that these initiatives procure more social security and assure an exchange of necessary information because the resources from the official institutions of the host country are not always sufficient for these communities.

The help that the ethnic group can bring to the enterprise is not only financial but it can also help in the recruitment of labour. The study of T. Pairault shows that more than two thirds of small entrepreneurs principally employ labour from their own ethnic group, whilst less than one third of them recruit employees from varied ethnic origins. When the immigrant has his residence and work permits the role-played by the community or the ethnic job market is decidedly more positive. Community employment acts as a safety net which the immigrant can cross in order to adapt to its host country and here he accumulates knowledge, experience, relations and sufficient savings to launch his own business.

3.2 The impact of dynamism on small entrepreneurs

In general, these men and women create small businesses, or even micro-enterprises that employ a small number of people. However, due to their number, added value and employment that these small and medium sized enterprises generate, they occupy a significant place in the national economy and participate in the development of the productive and commercial fabric of the country (Ruth Padrun, 1990).

T. Pairault's study also notes the complicity between the dominant economy and the ethnic economy in the measure where there exist a number of business relationships between ethnic and non-ethnic enterprises. In Brussels, for example, a number of ethnic enterprises in Ixelles are supplied in regular fashion by native Belgian businesses.

But the emergence of economic activity resulting from the dynamism of immigrants is manifestly viewed by a number of citizens of the host country as a withdrawal towards the creation of ghettos and xenophobia. Europe is seeing, in fact, an explosive social situation characterised by the deficit and the narrowness of the workforce, a consequence of the current economic crisis. This period of socio-economic incertitude is susceptible to be exploited in a hateful manner against the immigrants at a time when the resurgence of extreme right political movements is observed across the Old World.

We think that this is where the error lies or an unusual and ever paradoxical reaction because the reason for immigration after the Second World War was essentially that of importation of a cheap workforce (Martens, A, 1988). What's more, if an ethnic entrepreneur launches, runs and develops his business and finds his way due to the support of his base community, it is very often because he has no other means to combat social exclusion. In fact, the isolated immigrant has difficult or no access to credit, work, or training. The only means of help is the access to the solidarity of his base community and the help of his family to incorporate him into the economic world (Servet, J.M,1995). But when he has succeeded, he ceases to be an ethnic entrepreneur and instead becomes quite simply an entrepreneur, in short an economic agent. Social networks help him start up and afterwards he needs economic networks to develop like any other entrepreneur.

It is also necessary to note that this process of social and economic development from the community base foundation is not only unique to immigrants. Bernard Musyck equally observed it in south-west Flanders, notably in the small regions of Tielt, Roulers and Courtrain. This region was characterised by the relatively low level of employment by foreign and non-local Belgian firms. This process of industrialisation was principally developed from local private initiatives and by a considerable aptitude for social and economic self-management at a local level.

The region was always neglected where public employment was concerned. It possessed neither national enterprise, important military garrisons, large administrative offices nor other important public employers. The Courtrai region is essentially a region of small family businesses. Consequently the relationship between private and public enterprise is particularly good. In fact, for every person employed in the public sector, 8.9 people work in the

private sector in Tielt, 6.2 in Rowlers, 6.1 in Courtrai, 4.2 in Antwerp, 3.2 in Gand and 2.1 in Bruxelles and only 1.4 in Arlons, while the Belgian average is 3.0 (ONSS, INASTI, 1989).

Although a debate exists on the causes and factors that explain the dynamism of this region there is also reason to indicate that throughout history, the Courtrai region has lived on the periphery of the country. It felt extreme poverty and found itself isolated from the centre where the important investments in infrastructure and industry were being generated. In a certain way, the history of the region has shown that it would have to depend on its own initiatives and resources to prosper. This also probably also reinforced the development of a community spirit closely resembling ethnic enterprise and deserves to be popularised and used by other communities.

4. Empirical studies

On the basis of a representative sample of ethnic entrepreneurs coming from an evolving immigrant population in Brussels, a survey was carried out over about fifty SMEs. Particular attention was given to the fact that numerous ethnic entrepreneurs were suspicious. For that reason a primary investigation was called for. It consisted of determining our main lines of research and discerning the possible paths and pitfalls. Thus in March 1996 several promoters of foreign extraction were visited. This led to an interview on the history of their enterprise, the principal stages of its evolution, the origin of the initial capital, the contribution of formal and informal networks, the support obtained during the starting up period of the enterprise, the organisational structure as well as the owners' family obligations.

4.1 Methodological orientations

This study seeks to find the answer to the question of whether the creation of the enterprise movement by immigrants is a solution, in terms of activity, to the economic crisis and constitutes a particular original form of integration which merits to be better studied, known and supported on a quantitative rather than on a qualitative plan.

The questionnaire, as a work tool, permitted us to collect the quantitative facts with relative precision. These were enhanced by the information coming from thematic and semidirective interviews. In effect, the enterprise study which is a phenomenon considered to be longitudinal requires the application of a participative approach. The qualitative methods, notably the analysis of the biographies of ethnic entrepreneurs help us to better understand the most important aspects of the migratory and entrepreneurial journeys. It was therefore interesting to proceed with open interviews encouraging people to talk freely with a maximum of details of their migratory and entrepreneurial experience. In fact the most interesting information cannot be obtained until a relationship of trust has been formed. Forming relationships of this kind can be difficult with only one meeting.

We also sought to explain entrepreneurial approach from a certain number of aspects of the socio-cultural system of the immigrant. There exists in fact, a school of thought in business which attributes the success of the immigrant entrepreneur to the activity of networking. In other words, the more networks an entrepreneur has, the more people he knows and the more chances he has to succeed. In fact, for him it is not only about succeeding in business it is also necessary to succeed in life. Besides, the business will be a lot better off for that. So then the immigrant goes to establish a certain number of activities and relations around the dimensions which are pertinent to him, which have a significance for him, whether the significance is family, social, political, cultural, religious, business etc.

4.2 Analysis of the survey

With the progression in the movement of enterprise creation by foreigners, one witnesses an evolution in the ethnic composition of the enterprise chiefs and in the terms of creation, as well as a diversification of activities.

4.2.1 Human resources

Often illiterate or with little education, but possessing professional know-how and a commercial tradition generally inherited in their countries of origin, the Brussels African promoters often come from particular ethnic groups (Luba, Kongo) renowned for their aptitude to enterprise in their own country as well as in the country of emigration. Most have set up their own businesses between the ages of 30 and 40 after a very difficult professional journey. In general they have known periods of unemployment whether short or long, several being without work since the beginning of this project. Where the not so young are concerned, their path of education is frequently characterised by its short duration and its orientation towards a precocious entry into the labour market. Compared with their already established elders, their level of education is higher however, it remains for many of them low and insufficient.

But where the enterprise chiefs with whom we have spoken have, in general, mastered a control technique and professionalism over the activity they exercise, often they have insufficient knowledge of the mechanics of business administration, accounts and finance. Even though these shortcomings are curbed by different means, they however constitute a serious handicap, notably when it means the manager alone of a small business must assume responsibility for all functions.

The analysis of the individual promoter's careers show, despite diverse motivations, that for the most part the creation of an enterprise is a consequence of the current economic situation and often represents the only exit from a precarious situation. We have already pointed out that many in fact created their businesses after a long period of temporary work and unemployment.

Succeeding in creating an enterprise often signifies creating one's own employment and means no longer depending on the uncertainties of the job market, which is all the more important as they had from the beginning very important social responsibilities. In fact, 54.8% of entrepreneurs of immigrant origin in Brussels are responsible for between one and four children, 38.7% are responsible for five or more leaving 6.5% who are not responsible for anyone. This situation demands on the part of African the promoters considerable social investment with a view to assuring his children with an appropriate education, and an intellectual and moral training to guarantee social balance. Reducing anxiety and social tension by means of solidarity and cultural values is an obvious answer.

4.2.2 Recourse to ethnic resources

It is true that material wealth in fact is worthless unless it generates social wealth. For this reason it must circulate within the largest possible number of recipients and enrich social relations. It assures the sustenance and the solidarity of the community members by a redistribution of accumulated wealth, by the creation of a large and a loyal clientele, loyal by the obligation of generosity and the principle of reciprocity. The satisfaction is in having a lot of people working together to form and reinforce the cohesion of big families.

But if the extended African family often represents a responsibility, a sort of additional social cost to the business, the entrepreneur also looks within the business for a means to reduce production costs by the type of labour recruitment he employs as well as by the type and level of remuneration he offers. What's more throughout the business cycle and its collective social relations these networks may constitute powerful assets notably as far as the

learning of know-how is concerned as well as experience and financial contribution. In effect, in so far as it can benefit from the support of the socio-cultural system of its promoter and its entourage, the SME plays at the same time the role of a catalyst and above all involves the most people in its creation and development.

The dynamics of change are more and more seen as the work of a closely related group of people who put more emphasis on the relational. They do not always define the objectives of the business from a maximisation of profit angle, but on the contrary define them as being a social and cultural function which they perform. This can sometimes lead to apparently rather unorthodox business management.

It is true that the life cycle of an SME depends partly on the links its promoter maintains with his entourage. Being determined by rules of solidarity, these links create rights and obligations making each person a member of a family and a potential beneficiary of the services of all the others.

4.2.3 Start-up capital

Therefore to better develop the local potential a correspondence must be made between the economic and social organisation. It is in this spirit that it is necessary to place traditional social institutions as a means, amongst others, of aiming to reduce the difficulties of access to credit and more globally to the capital market. The African populations, from the marginalized and excluded by the classic banking system, knew it was necessary to devise ingenious methods to minimise the lack of resources. In that way social and cultural capital plays, in many cases, a vital role in the creation, growth and support of the SME.

Studies carried out on numerous African and Asian SMEs show that their initial capital is, in general, modest and that it essentially comes from personal savings, a raising of tontines, and help given by close and distant parents and friends. The tradition of the entrepreneur being an independent man is not the case here.

Here there is room to identify the discriminatory character of formal financial circuits by the fact that promoters are obligated to merge outside of this sector in order to realise their needs. They lend and borrow in order to aid associations, to which they are members themselves, sometimes with very few formalities and always for a limited period.

But the personal and family savings, which may be called upon, first of all must exist. During the entire period preceding the contemporary crisis, a large amount of savings achieved by the immigrants, notably those resulting from the first generations were generally sent back to their countries of origin. With the work crisis and the very strong tendency to set up permanently in Belgium, business and savings changed. Henceforth foreign households spent more in their host countries even if their incomes were less regular and important. The development of patrimony (immediate households) and the revenue that resulted from them could create in the future, for the upcoming generations, a non-negligible basis for their project creation. The support of parents, the inheritance of a shop or an individual house:- is this not often the means disposed of by the young Europeans following the example of the young people of immigrant origin, when it comes to starting up a project?

The analysis of initial capital creation, that we can read from table 1 permits us to affirm that the financing of activities comes principally from internal origins. For the African community in Brussels its essentially comes from personal savings and family help. Tontine and other forms of non-precise resources occur subsequently. The weakness of initial capital is however compensated by a strong will to succeed in business. As for the financing of a business coming from an institutional origin, that is to say the formal financial sector, that is very weak for foreign entrepreneurs. This confirms one of the characteristics of the ethnic SME, that is to say there is virtually no recourse to the banking system or rather non-access to the official credit sectors for the promoters.

Table 1 - Financial sources of initial capital (%)

<i>Initial capital</i>	<i>China to Paris, 1995</i>	<i>African to Brussel, 1996</i>
Personal savings	27.8	57.8
Family	9.9	17.8
Various tontines and contributions	24.9	15.6
Bank loan	37.4	8.8
Total	100.0	100.0
Source: Pairault, 1995 and Muamba, 1996		

This situation is apparently different in the Chinese communities, where, on a measure, it is a benefit, very often, from the outset of ethnic savings. This is more or less a strong mobilization following a certain number of conditions tied in with diverse cultural habits and specific modes of community organisation. Although strongly developed in Southwest Asian communities, it is not used in an efficient way in the African communities where amongst specific ethnic groups a strong commercial tradition lies.

Among the elements of initial capital, one must also include the parent network, as well as personal credit which can considerably reduce initial contributions, and different forms of wealth accumulate outside the enterprise. Another interesting indication is the importance of the role of the spouses and their *tontines* in the formation of capital. One witnesses, in fact, the increasing number of additions throughout the whole informal female financial networks.

4.3 Community savings

The existence of the *tontine* somewhat lessens the initial obstacles. It concerns widespread traditional practice in old rural societies, exemplary of community work corresponding to an association created in view of collective work, taker in turns, which includes each members field of work. We therefore have a form of adjustment to the monetary and marketable economy which constitutes a quite original system.

The tontine carries with it security, logic and is very often characterised by a great business simplicity or even by its extraordinary flexibility. On a whole it attaches a strong importance to social relations and puts a large emphasis on mutual trust, honesty and the honour of its promoters. It is perceived as being more secure than the formal institutions. What is more, it can be of a mixed nature and have an ethnic character, geography, family or friend. It provides an occasion to re-weld diverse links at a time when modern banks are rigid, anonymous and seek only financial profitability.

It is true that the tontine is based mainly on social logic and was not previously known as a means for financing the creation and development of small and medium sized enterprises. It is normal that the importance of these loans, called social to the detriment of productive credit, is considerable. Even if the phenomenon, which served the economic dynamism of Bamiléké of Cameroon and others, is considered by many as marginal. But one can often forget that the excellence was always marginal. The debate today is rather to find a better organiser of local

resources, material and immaterial, and able to return these resources, more profitably and more effectively. It means in fact finding the ways and means to allow this excellence to be popularised.

The way of the future lies in precisely and progressively inventing, by intuition and the daily practice of organisation and of business conforming to the foundations of local culture (P. Delalande, 1984, pp. 81-88). This is true of the case of small and medium sized enterprises shown and encouraged by certain African communities. We think there is room to take more interest in group factors (individual, institutional, professional, moral ...) which means that certain groups all arrive to mobilise their diverse energies and to put in place a dynamic change in the service of the entrepreneurial cause.

The spirit of solidarity must at all times continue. In effect, in true African tradition, each member of active age is called upon not only to receive but also to give. The group is not, in principle, for the individual but is an interdependent chain. The group will therefore have to help this chain to easily take initiative, easily to innovate and to forge ahead as in Nande and Bamilike. However, it very often happens that solidarity levels ambitions instead of giving rise to excellence and competitiveness.

The question that we can pose ourselves is that of knowing if the process of support already put in place by the SMEs ought to be elaborated, in Africa as elsewhere, by the pushing aside of culture and popular knowledge. Modernity signifies again, as so often before, the breakdown in pre-existent knowledge. Several studies show that traditional Africa had an abundance of undreamed organisational possibilities.

5. Conclusion

In this study, it emerges that the ethnic entrepreneur has a permanent relationship with his socio-cultural environment. At the same time, he participates in the social reality he is in part determined by this reality which is defined by his institutions, norms, values and practices. He cannot ignore local culture or popular knowledge. The idea that the socio-cultural system of the entrepreneur is a sizeable obstacle during the setting up of a small unit of production must be put into perspective by the fact that the remote advantages of social and family network relations are not small. Although the ethnic enterprise phenomenon and the search for excellence still remains a marginal fact, we all the same notice that in certain African communities, the group is more like an interdependent chain that helps to take initiative, break into new ground and forge ahead. The challenge today consists, without doubt, of better organisation of local resources, material and immaterial, in order to make them more profitable and effective.

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PRODUCTIVE COOPERATION NETWORK AS A COMPETITIVE ADVANTAGE FOR SMALL AND MEDIUM SIZE FIRMS IN THE STATE OF SÃO PAULO (BRAZIL)

João Amato Neto

Abstract

The purpose of this article is to discuss the opportunities and barriers relating to the creation and development of *productive cooperation network*, under the industrial restructuring context and analyse some particular aspects of the Brazilian context, specially in the state of São Paulo (one of the most industrialized state of Brazil). Beside this, the intention is to point out some possible ways to improve the organization performance supported by this new kind of inter-firm arrangement, through the concept of *regional clusters* and, finally, to propose some public politics.

1. Introduction

The process of globalization and the intense changes in the modern capitalism world, specifically the emergence of new technologies relating to the microelectronics and the infoways, have imposed deep changes in the organizational structure of the enterprises in order to get more competitive advantages. Under this context, the advent of the "*lean production paradigm*" (Woomack, 1990), or "*agile production*" (Goldman, 1994), or even "*flexible specialization paradigm*" (Piore & Sabel, 1984; Schmitz, 1989), has provoking, in particular terms, new kinds of inter-firms relationships, towards the increasing of the company competitive power, in general.

The new business opportunities arose from this new kind of inter-firm relationships or enterprise networks seem not to have comparison with the world economic history.

In the present paper we discuss this phenomenon referring to the creation of inter-firm networks and its contribution to the technological and managing modernization, as its implications to the increase of the quality and productivity levels of the small and medium enterprises (SME's) in Brazil. We will focus mainly the most industrialized state of Brazil, the State of São Paulo.

Inter-firm networks have been created and got more and more importance not just in the developed countries as Italy, Japan, and Germany, but also in the newly industrialized countries as Mexico, Chile, Argentina and Brazil.

The main argument in this article is that the emergence of new types of industrial organization, specifically those relating to stimulate more inter-firm cooperation, offers new elements to public policies that can support the SME's development plans. Policies which consider this dynamic aspect of cooperation among companies operating within the same production chain (and not in an isolated form), that can create synergy of positive impacts, called "*collective efficiency*", in order to improve an inter-firm network as a whole.

Considering the high potential of the SME's in terms of its contribution to social improvement (job creation) and economic growth (increase of efficiency and productivity in the same productive chain), it is important to point out the necessity to offer support towards the modernization of SME's.

The intensification of the telecommunication utilization through the modern *infoways* (*Internet, specially*), is already creating new business opportunities in the different human activities. Ideas, as virtual office, library or bookstore, virtual bank and virtual enterprise, are in fact realities around the world. All of those examples could be expressed by the concept of *virtual organization* and considered as a specific case of inter-firm network.

2. The Barzilian experience

Due to its great economic potential, the possibilities of "*inter-firm dynamic cooperation*" among the Brazilian companies seem to be multiple. Those opportunities involve from the large companies or mega-corporations to the SME's, belonging to the industrial, financial, commercial or service sector in general.

As an emergent economy with a potential consumer market composed by 150 million inhabitants and with a US\$ 700 billion Gross Internal Product, the expectations of new direct foreign investments in Brazil, besides the restructuring of the state with the following new public investments (mainly in the infrastructure sectors as telecommunication and transportation ones) should create an optimistic economical scenery.

Based on recent data, more than 1.000 foreign companies intend to accomplish direct investments until the year 2.000, mainly focused in increasing of the production capacity or in modernizing the existent structures. Specifically talking, only the auto-makers intend to invest US\$ 15 billion in Brazil during the next 2 or 3 years.

One of the most interesting successful case of inter-firm networks in Brazil is the shoe industry in "Vale dos Sinos" region, placed in the Rio Grande do Sul state (south of Brazil). In that case, the geographical proximity and the operating the same market provoke a greater interdependence degree among the partners. The social-cultural similarities help the relationship based on trust among the companies and minimize the risk inherent in the own network.

3. The case of the state of São Paulo

The industrial income in São Paulo State corresponds to 41% of all the Brazilian industrial income and the total economical income is US\$ 290 billion equivalent to 36% of Gross National Income.

Besides losing many new direct investment projects (mainly in the industrial sectors) to other states, the perspectives are already optimistic for São Paulo. It was announced US\$ 26.5 billion of new investments in São Paulo state only in 1998. Those new direct investments are being applied to new industrial plants installation, building of new malls and to modernization of the existent ones (data from Science, Technology and Economic Development Secretary of the State of São Paulo). All of those new investments should stimulate the modernization of São Paulo economy in a special moment of economic recession (by the way, this fact is not only specific to São Paulo State, but is affecting the Brazilian economy as a whole), when some traditional segments are losing power. For example, there were almost 2.800 textile companies in São Paulo State until 1990. Nowadays, unfortunately, there are only 1.900. A lot of textile plants were closed during that period and the companies changed their strategies, looking for other regions where they offer fiscal and cost attractiveness, mainly those relating to a low wage regions (northeast region of Brazil, specially).

Replacing that kind of industry, new plants of computers and telecommunication parts and equipment are being founded in São Paulo State. New auto-maker and auto-part factories are also being installed in São Paulo (Honda, Volkswagen's truck and engine plants), despite a lot of ancient plants have been reducing their operation and, in case of auto-part companies, many of them have been closed.

The regional distribution of those new investments prioritizes the Vale do Paraíba region with 32% of total capital invested. In second place, the region of Campinas city appears with 26%, followed by the "A. B. C. and Great São Paulo" region (involving Santo André, São Bernardo do Campo and São Caetano cities) with 13% of the total investments. The 29% remaining should be distributed among the other regions of the state.

In short, one could say that the present moment marked by the globalization process seems to contribute with São Paulo State, that traditionally has the most important industrial park, besides the fact of concentrating the greater number of skilled professional and technical workers of Brazil, in general (this fact can be understood by the presence of the most important universities, research centers and technical school in State of São Paulo).

The most part of the future investments should come mainly from the transnational companies, as well as from Brazilian companies. There are many Brazilian groups and consortia preparing themselves to participate in privatization processes of the old state companies, those traditionally belonged to the monopolized markets (as mining, telecommunication sector, besides others).

Besides those US\$ 26.5 billion in private investments, there are also public projects involving US\$ 50 billion, relating to transportation and telecommunication system modernization, which should create 400.000 direct and indirect new jobs in São Paulo State (data from "Exame" magazine, Ed. No. 658, 1998).

In terms of *regional clusters* it is possible to identify some industrial regions relating to some economical sectors. First of all there are three regions, which are specialized in shoe industry. The most important of them is the shoe industry of *Franca*, a medium size city sited in the north of the State of São Paulo. This region is specialized in *men's leather shoes*. In that region it is possible to observe the predominance of SME's working together with some large companies as Samello, Sandalo and Vulcabras, traditionally exporting companies (Garcia, 1996 apud IPT, 1998).

There are a strong predominance of SME's in this region (Franca). Among 390 shoe maker companies, 365 are micro or small ones (94% of all). Other 15 (3.8%) are medium size and only 10 (2.5%) are large companies. Among all of those companies, only 3 of them have the ISO 9.000 quality assurance certification, being 2 large companies and 1 medium size company. In average terms, the companies work with 30 days of lead-time. The most part of the companies has low degree technology, using old equipment in general, and in some special cases of automation, they are rigid type, that is, not flexible production systems are used.

In terms of Internet utilization it was observed that only 10% of all the companies utilize this kind of resource, in spite of the existence of 3 Internet providers in that region.

Finally, referring to the relationship between the SME's and the large ones, one may say that relationship is not so relevant, existing only some joint actions in cases of exporting programs, participating in fairs of the sector (shoe industry) or in new products to introduced in the market.

The other region is *Birigui*, a small town sited in the center of the State of São Paulo, specialized in children's shoe production made of synthetic material.

The third region is the city of *Jaú*, which produces women's leather shoes. In both cases (Birigui and Jaú) a greater presence of SME's can be observed. This fact could represent a great potential to the inter-firm cooperation relationship among those companies.

The other predominant regional cluster in São Paulo State is the *textile and clothing* in *Americana*, a medium size city (sited 100 km north from São Paulo city). In this region one can feel the intense impact of the commercial liberalization for the imported articles, mainly those coming from the Asiatic southeast (China, specially). In consequence of that fact, the local production fell 60% from 1992 to 1995. The same occurred with the employment level. It fell from 23,895 to 17,743 job places. Meanwhile, Brazil as a whole imported 113.344 ton/year (in 1993) of textile articles, in general.

Nowadays it remains only those companies which can compete in price and quality aspects. The surviving companies decided to invest in their modernization process. Between 1996 and 1998 it occurred a production retaking because it was invested US\$ 300 million in new equipment and production process modernization. Consequently, an increasing number of companies operating in that sector (from 621 in 1996 to 634 in 1997) could be observed, for the first time after 10 years. The number of employees also increased during that period: from 13,418 (in 1996) to 14,014 (in 1997). (data from SINDITEC, 1998).

Besides those two cases previously discussed -- the shoe and the textile industries -- it is possible to point out some other cases of developing regional clusters in São Paulo State, and there are only few studies about them until now.

One of the cases is the *High Technology and Science Park, in São Carlos*, a medium size city, 230 km north from São Paulo, where there are the most concentrated number of researchers per inhabitant in Brazil. This occurs due to the existence of two important public universities and some of the most important research centers of the country in that city. Since 1985 (date of the foundation of that Science Park), more than 50 small "*high-tech companies*" were created, most of them specialized in new material production to the industry, industrial equipment, computing, automation of process and equipment to telecommunication systems.

In *Limeira*, a medium size city sited in the center of the state (almost 120 km north from São Paulo city), a great number of *jewel and costume jewel small factories* have been increasing the, for the last two decades. Due to the random development process of that sector during that period, the local mayor house decided to implement an "*industrial district*" and an "*incubator of companies*" to take shelter for those factories (mainly in terms of the treatment of the waste water and the remaining material used in the production process), as well as to stimulate the local economy and create new investments opportunities. There are a lot of other cases that could be studied as cases of "*regional clusters*". But just to illustrate that tendency, some of them one could be mentioned:

<i>Region</i>	<i>Economic Activity (predominant sector)</i>
Ribeirão Preto	Graphics
Porto Ferreira	White ceramics
Ibitinga	Embroidery (articles)
Itatiba	Furniture
Votuporanga	Wood furniture
Jardinópolis and Itu	Red ceramics
Source: SEBRAE, 1996.	

4. Conclusions

Despite of all of that optimistic scenery, referring to the expectation of new direct investments and to the Brazilian state restructuring process, there are a lot of restrictions and barriers facing the Brazilian economy modernization challenge as a whole, as well as to the possibilities of inter-firm cooperation network development.

Besides the institutional-political barriers, which inhibit a great policy decision making by the Brazilian state in order to implement the various of reforms (fiscal, administrative, social-security, etc.), there are still other kinds of specific problems (as a consequence of the prior items), as for example the precariousness and obsolescence related to the telecommunication infra-structure in Brazil. Only to exemplify, one can say that while there are 68 telephone lines per 100 people in United State, there are only 8 lines per 100 inhabitants in Brazil.

In terms of Internet utilization, the limitations refer to the lack of new investments in the new telecommunication infoways, which imply more intensive utilization of optical fiber and digital systems replacing the real analogous ones. In that way, the Brazilian public authorities are already announcing investments around US\$ 90 billion in the telecommunication system until the year 2.002 in order to implement a suitable infra-structure to support the enterprise competitive power under the context of a global economy.

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HOW TO TRANSFER PRODUCTION KNOW-HOW AND TECHNOLOGIES TO MEDIUM-SMALL BUSINESS FIRMS IN A DEVERTICALIZED INTERNATIONAL ENVIRONMENT

Sergio Gallo, Teresa Mùrino and Liberata Santillo

Abstract

Production know-how and technology are seen by many authors as a key factor for the social and economic development of any nation. Small and medium enterprises (SMEs) provide large fractions of new production and employment in many industrialised countries. Thus, it is highly desirable that SMEs and individual entrepreneurs be provided assistance in accessing sources of technology in all countries. This paper provides some background and some ideas on how cooperation could develop in a strategically way. The objective of this work is to explore ways of improving and accelerate the transfer process and increasing the rate of technology transfer and to identifying and discussing approaches to cooperate towards this end increasing competitiveness in global market.

Introduction

The recent global political situation in our world tending towards democracy and an open market economy spurs on by increasing international competition, rising costs of advanced research, the need to leverage scarce scientific and technical talent, and the desire to share the risks associated with technology generation and commercialisation, technology companies are banding together in research and development consortia and innovative strategic alliances. Managers in these new types of organisations face the intriguing paradox of competition and cooperation. To compete more effectively in international markets, they must find effective ways of communication process to cooperate across research and organisational boundaries. Being interested in gaining access to new markets depends also on gaining access in raw materials and energy sources of the country for the occurred transfer, therefore, for the economic growth of this country itself.

Production know-how and technology are seen by many authors as a key factor for the social and economic development of any nation. Indeed most of the affluent nations in the world, such as the USA, Japan, and West Germany, built their economy around technology. Porter notes that "a nation's ability to upgrade its existing advantages the next level of technology and productivity is the key to international success".

A lot of empirical facts point out the importance of technology transfer both for external growth strategies of the firms and for the modes production or acquisition of innovation.

In this analysis we discuss an approach to innovation that integrates the internal R&D activity with the use of potential innovation sources, of resources and the know-how outside the firm. The access to these external resources takes place through the acquisition on the innovation market of innovation of licenses and patents or through agreements of various nature.

The increasing competitiveness in the world market implies continuous innovation in order to acquire a strategic competitive leverage. For that reason the need to be innovative drives firms to cooperate, as the form of joint ventures, alliances, partnerships, to develop new design and production technologies. The way to satisfy such need is technology transfer through vertical integration-relationship between suppliers and assemblers for the same production chain-and horizontal integration -joint ventures buying technology.

Since technology is developing continuously everywhere, new products and production procedures are brought about in different countries of the world. The post-war years were characterised by an intensive scientific and technological cooperation between the well developed countries, and only technology transfer has become a stable element of development in international technology, i. e. aerospace technology. Technology transfer is therefore central to the process of globalization, but of course, it should not be considered only as a one-way street.

To make technology transfer successful requires overcoming the many barriers to communication encountered when individuals use different vocabularies, have different motives, represent organisations of widely differing cultures, and when the referents of the transactions may vary from highly abstract concepts to concrete products. At the heart of the matter, we consistently observe these problems in such communication transactions between individuals (such as scientist-scientist, scientist-client, manager-scientist etc.) within and among corporations, in university-industry collaboration and R&D consortia, between government and industry, and international transfer.

Small and medium enterprises (SMEs) provide large fractions of new production and employment in many industrialised countries. Thus, it is highly desirable that SMEs and individual entrepreneurs be provided assistance in accessing sources of technology in all countries. For example, infrastructural services such as innovation centres, cooperative projects, information services for small firms, etc., could be provided. The concept of a joint technology transfer centre should be considered.

The objective of this work is to explore ways of improving and accelerate the transfer process and increasing the rate of technology transfer and to identifying and discussing approaches to cooperate toward this end increasing competitiveness in global markets.

This paper proposes suggestions facilitating the achievement of best results in these critical activities of increasingly importance.

Technology Transfer

The most applicable definition of technology is: "any tool or technique, any product or process, any physical equipment or method of doing or making, by which human capability is extended". Thus, technology is capability, i.e. physical structure or knowledge embodied in an artifact-software, hardware, or methodology- that aids in accomplishing some tasks. It includes therefore, also organisational, marketing and managerial capabilities.

Technology transfer (TT), as usually defined, involves some source of technology, defined by specialised technical skills, which transfers the technology to a target group of receivers who do not possess those specialised skills and who therefore cannot create the artifact themselves. Clearly, the process of TT is strongly affected by a number of factors such as the nature of the entities between which the transfer occurs, the kind of technology being transferred and the social climate under which the transfer occurs. Each of these factors involves in turn both technological and social factors of considerable complexity. Therefore TT can be considered as a socio-technological process, i.e. one shaped by interaction of social and technical issues. If we consider a technological system as a combination of technological system itself, as a combination of technical devices and people, it is a socio technological system. Socio-technology studies the interactions between technological and social system; hence it can penetrate every

aspect of technology, that is of the process that connects two or more technological systems for the transfer of technology.

Any technological system, such as a design office, a factory, can be viewed as composed of two components or parts: the "techne", i.e. the technology, and the "social component", that produces the techne and uses it. In this system there is a socio-technological interaction between the techne and its associated social component. A socio-technological interaction occurs between the technological system as a whole and the rest of society, that commission or use the technology. While the technological system is intrinsically shaped by scientific and technological principles, the rest of society is primarily the embodiment of other principles, complex social motivations, customs, laws and attitudes. From these intrinsic differences among the interacting entities arise the socio-technological issues, conflicts and opportunities associated with technology transfer (fig. 1--omitted).

In the TT process, between two technological systems, a multitude of interactions among their components is involved. If the two technology systems have respectively m and n internal socio-technological units (techne and social component), the total number of interaction within and among the systems is:

$$[(m + n - 1) (m + n)]/2$$

It is evident that this is a very large number and it shows how complex is the "problem".

A question arises in this area: is it technology or scientific findings that spur innovation on or on the opposite is it the market that requires new technology?

This push-pull question is too simple to explain the complexity of the problem that is a mix of two causes in variable proportion.

It often happens that fundamental scientific or technical discoveries are obtained by lonely inventors or in small high technology firms or laboratories accepting high risks in experimenting new original technology or products (technology push), and, then transferred to R&D shops in larger companies in order to develop marketable products: the firsts accept much more risks coming from experimenting new frontiers, but they gain the advantage to be the firsts, as matter of fact technology can create new markets; big firms can't risk market unsuccesses.

In other cases big firms have big R&D shops and the structure to develop innovative products the market is asking for (demand pull).

Small firms and inventors take advantage in first steps into invention and innovation development, whereas big firms or organisations have better choice in order to develop and improve in a market standpoint new technology, products or systems.

Innovation improvement cycle move forward various phases due either to the market interests, such as innovation development and diversification, contributing to success, and either technology push due to new basic findings.

It is always possible, that any time this process stops itself because of assessment opportunity to continue on the way, and the typical successful development diagram is the same of epidemiological illness (S diagram): first low speed phenomena (only few innovators or "seeks"), then, with increasing speed, phenomena accelerate because of aggregation of other developers, "swarming", i.e. the trend of the other competitors in order to recognize value and evaluate benefits coming from the new innovation, finally, phenomena stabilizes itself, decreasing the speed, the latest users are conservative firms: they don't want to risk nothing in developing risky innovation.

The questions are:

- How risky is for a firm to share its own technologies with potential competitors?
- Is it true that technological relationships and cooperation in industrial research lead to a competitive advantage and more market effectiveness?

The answer is that being together implies common product standards creation in design and performance, then the technology innovation gained by the group gives a competitive advantage excluding the others. The factors generating innovation originate from two different causes: new scientific and/or technological findings, or market needs, with a large complexity of relationships between these two.

The next schemes (Fig. 2--omitted) describe the simple cause chain in the two cases:

Technology agreement is one of the ways the firm can manage the innovation process. The firm's decision is based on the role of production capabilities of the firm itself among the various growth paths and on cost transactions related to the different feasible alternatives.

A dynamic approach is more effective than the static one pursuing only a better firm efficiency. The key factor is to guarantee a competitive advantage exploiting the innovation process using technology transfer.

If a firm is not able to put its technology on the complementary assets through agreements with other firms, this growth strategy derives from the empirical evidence in which very often the first mover isn't able to exploit at maximum its own innovation, but on the contrary who owns the complementary assets in place of the technological ones gains advantages. Even more if the firm has low possibility to use the right technology, cooperation can improve the technological income assumed through innovation process.

Generally in the development of technical concepts into usable tools, four stages can be recognised:

- *Basic Research*, exploration of basic scientific principles;
- *Applied Research* (Development), focus of scientific principles on specific applications;
- *Engineering*, development of the applied principles into a product/tool;
- *Implementation* (use/manufacture), use of that tool or product to accomplish a task/production of the product in volume.

The progression clearly shows the TT between different stages.

Obviously TT can also occur within the stages. Within a firm usually the progression is the same. The research organisation passes the technology to the development organisation, which passes a revised version on to engineering. Thus, the same group of people may be technology sources in one instance and receivers in another one.

The use of this progression scheme is very fruitful in the analysis of two interacting technological systems in order to characterise the most effective ways of TT.

Technology Transfer Agents, Mechanisms and Modes

TT, as a process of socio-technological interactions between two or more technological entities, can be accomplished by a diversity of agents, through a variety of mechanisms and in different modes.

Agents

TT agent is any entity which promotes the transfer process between different technological systems or technology units, such as within a corporation, a business firm, a University, or an international organisation. It is important to make a distinction between three kinds of organisations -business firms, government agencies or organisations and private non profit organisations -because they differ greatly in their goals and in the opportunities and incentives to which they respond.

Mechanisms

The mechanisms for TT between two entities are as varied as the agents and they are all socio-technological. The simplest, most straightforward mechanism is the "direct transfer of techne" by purchasing, by retro-engineering, or by other activities. This mechanism has the advantage of immediacy and involves relatively few socio-technological complexities, other than how the decisions are reached to pursue it, and the possible resistance to change in the recipient entity. It is often the simplest stage of a TT strategy, but it becomes counterproductive if the transfer process stops there, without generating a new attitude toward innovation and without triggering other forms of technological development. Another mechanism is "direct investment", including the transfer of entire technological entities -e. g. the acquisition by entity B of an industry, a company, or part of a company from entity A, or indeed the creation of a subsidiary of entity A within the domain of entity B.

The mechanisms for transfer of information are more complex. They assume many forms such as conferences, seminars, students studying abroad, cooperative research, transfer of know-how and expert systems, exchange of expertise, training programs, licensing, partnership.

Establishing "windows", that are observatories around entities that generate information, such as Universities or research laboratories, is a particular effective form of transfer of information. Venture capital partnership -the entity, which intends to receive the technology, becomes aware of technological development in the entity that is the source of that technology- is an efficient mechanism for transferring information.

Consideration should to be given to international mechanisms that would address hard currency problems arising in connection with technology transfer programs of all kinds.

Modes

The key dimension distinguishing the two ends of the TT mode continuum is the number of individuals targeted as users for a particular application of the technology. The fewer the users/receivers of that technology, the closer the situation is to a pure point-to-point transfer, the theoretical extreme of which would be diffusion of a generic tool to thousands of users.

Each mode is complicated by the degree of diversity in the applications of the tool, that is, the number of different tasks the tool is to aid. The two dimensions, technology span (number of people) and technology scope (number of different applications), combine to create four technology transfer situations (fig. 3--omitted).

Critical factors in the socio-technological environment

TT occurs in a very complex socio-technological environment, both in the transferring and the receiving system. The factors, which affect the socio-technological environment may influence the success or failure of TT process. Some these strategic factors are the nature, structure and practices of government, the legal and economic systems, the fiscal and educational systems, and social customs, attitudes, and beliefs (fig. 4--omitted). One of the most immediate impact, from the government aspect point of view, is the fiscal system, considering in particular the treatment of innovation, the taxation of imported products, the specific facilitation of TT activities. The way the legal system of both the transferring and the recipient unit operate is significant. It is also considerable if the system is more present, or future, oriented (as indicated e.g. by different rates of savings) and if it encourages cooperation or competition. Social customs, attitudes, and beliefs are important factors too in TT process. As matter of fact, establishing a serious control mechanism of the effectiveness of the TT process most of the times creates a difficult problem due to the reluctance in that culture. An appropriate educational system, both scholastic and industrial, is needed for successful TT. A highly intelligent and well -trained work force greatly accelerates the adoption of new technologies. Another crucial factor is the size, distribution, ownership, thrust, and capabilities of industry in the recipient unit (country, region, etc.).

Transfer mechanisms can be affected by several socio -technological pathologies. Some of them are: the "not invented here" (NIH) syndrome, timing of the transfer, the possessiveness about "turf", the egos of the parties involved, the complexity of the body of knowledge, the strong obstacles usually encountered by approaches that do not take into sufficient account the nature of the market.

Concerning the agents typical pathologies are related to organisational issues and to the involvement of the wrong organisations, both in the originator and in the recipient of the TT process. In order that technology is successfully transferred, both parties must be well aware of the role, which the pathologies and the socio-technological factors play.

International technology transfer

The question of international TT can be approached in two possible ways: one which assumes international cooperation based only on national interests and the other which assumes cooperation from a global point of view, i.e. techno-nationalism vs. techno-globalization.

Techno-globalization seeks integrative, systematic solutions resulting in a fusion of interests and in a global efficiency. The challenge is to manage the intriguing paradox of cooperation and competition in a constructive way toward a growth oriented development of economy.

The four principles suggested by D.M. Amidon Rogers to strengthen the process of innovation should be taken into consideration for an effective TT:

- Principle 1: "manage the process of TT";
- Principle 2: "build quality into the front end of research relationships".

We must focus on what makes TT successful and not on the obstacles. The partners should agree that increased quality is the goal they collectively seek;

- Principle 3: "practice the art of continuous process improvement";
- Principle 4: "optimise through alliances".

Skillfully partnering corporations can practice collaborative strategies that maximise a worldwide competitive advantage.

International relationships and their place in the chain of the technology transfer of innovation are very important. The innovation cycle starting from the production know-how (basic research), goes to the innovation production (applied research and development), to market the product (innovation transfer), to its value (exploitation of technology income).

The international competitive context within which small and medium firms form alliances shows how the typology of technological progress and market globalization features influence the acquisition and process of technology transfer through agreements.

All cooperation allows the production and transfer of technology necessary to improve the firm production processes and its final products as this initiative approaches the market. Moreover, the innovation international transfer modes promote a close contact among R&D activities on one side, and productive and/or distributive activities on the other: it is through the control of all the production chain that the firm gets the possibility to achieve a steady competitive advantage (Fig. 5--omitted).

The technology transfer among SME'S and/or countries, should include not only hardware or technical information, but also non-technical capabilities such as human resources, marketing skills and financial management and some sociological and psychological impediments have to be considered.

The characteristic of the technological process and the kind of competition faced by the firms greatly influence the ways in which firms produce innovation.

The vast research activity on this topic shows that our environmental context is more and more favourable to technological cooperation among SMEs.

Among the factors that act in this direction there are:

- the complexity of present technologies, on one side, raises the minimum threshold of necessary knowledge in order to compete in an international market, on the other side, it highlights the smaller technological ability of the single firm to self-support itself. Any firm, also if of great dimensions, cannot support by itself the enormous increase of R&D costs, and is willing to share such economic efforts with partners. In addition the concept of product as system, typical of recent productions, promotes problems of incompatibility and standards among the different subsystem that compose it: in order to overcome these difficulties firms cooperate in the paradigmatic phase of preparation of technological standards to define common standards;
- the increase of risk of an innovation process, because of the factors above mentioned, is reduced through the use of technology transfer. The risk of a specific project is reduced sharing the risk among partners (risk-sharing), whereas the whole one is reduced with the launching a large number of independent projects (risk pooling);
- the product life cycles shortening and the technological obsolescence impose quick innovation processes, and a fast trading exploitation of the produced technology. Sometimes this strategy is incompatible with the times of R&D of the growth carried only with internal resources;
- the know-how diffusion and the convergence of new technological paradigms impose innovation firms to acquire and to control technologies apparently far from their own traditional cultural base.

Next are some issues identified to have a successful TT among the SMEs.

R & D Systems

Certain R & D capabilities are not very strong in and in industrial enterprises such as marketing skills, management techniques, financial management and internal/external communication. It needs to learn to manage in a market environment.

Communication

A very large number of problems arise from the lack of cooperation and partnership. There is a clear need to improve communications among partners and/or institutions. The way is a computer network, face-to-face meetings of appropriate individuals, trainings, board, creating databases.

Lack of experience

Problems arise from lack of experience in team working and foreign market legislation or cooperation ventures.

Mentality

Both countries need to develop a better reciprocal understanding of their outlook, needs and capabilities. Although the development of market economies in the countries where is transferred the know-how creates a common ground for understanding, there remains much that requires better understanding on both sides regarding this development and its relation to technology transfer.

Expectations

Successful technology transfer requires a foundation in realistic expectations regarding opportunities and responsibilities, and the necessary time to realise benefits

Legal Institutions

The implementation of legal basis for a market economy in a technology transfer environment requires additional knowledge and training of such legal aspects, especially when SMEs want operate in international market.

Standards and Regulations

The exploitation of new technologies must ultimately occur through the development and marketing of new products. This requires that the products conform to international standards and comply with regulations in desired markets. Thus the development of standards and regulations in conformance with those of target countries is needed. Quality assurance is a necessary part of manufacturing and requires attention as well.

Suggestions to promote the transfer

The industrial policy for the development of the cooperation among firms must allow them to overcome the main obstacles that restrict the technological process growth, among which the ones attributable to the partner opportunistic behavior, the lack of information and the interorganizational difficulties to the firm. A suitable policy for the agreements could remedy these difficulties through the center organizing real services that:

- provide the needed information to the international partner;
- help to manage the procedure of agreement formulation, in a way to equally safeguard the involved parties, limiting the potential opportunistic behavior;
- allow an internal organizational evolution in order to develop a learning process to manage the agreements (learning by cooperating);
- encourage the relationships among universities, research organizations, and industries, facilitating the creation of the meeting point function of technology demand and supply.

It is possible to promote TT by establishing an organisational structure responsible for technological cooperation. This structure should provide not only a well-organised exchange of updated information, but also wide possibilities in entering the contracts and trade agreements. Such structure should be based on integrated activities among different area experts. This is the only way to facilitate TT, inspiring confidence and creating an atmosphere of mutual trust. The latter is a pledge of success. As a model, the structure may be represented by some joint organisation, for example an International Technology Transfer Centre, ITTC (Fig. 6--omitted).

The personnel involved should have wide knowledge in TT, protection of intellectual rights, commercial legislation, specific features of target market place, as well as on sources of venture capital, social financing, etc. In fact, the centre would carry out the interest of inexperienced young scientists and engineers when they engage in legal agreements, for instance by establishing international agreed contracts. Further, the Centre would provide legal services to authors of exportable technologies in order to help them secure property rights in anticipation of serious negotiations with the purchaser. Without such organisation, the establishment of business contracts will be rather ineffective and take long time and much money. A necessary condition for the effective functioning of the Centre is that it should be non-commercial and non-for-profit. Then the budget of the centre can be formed from receipt of activities in different directions. So the Centre will be a self-supporting entity. However, the first stage related to the collection of technologies and development of organisational structure should be financed from the state budget.

One of the activities to be financed with the proceeds generated by the ITTC is R&D. Such R&D activities in some countries are expected to discourage emigration of scientists and engineers, a common priority, albeit for different reasons, for all. Coordination of activities with other governments and multilateral organisations will be an essential part of the activities of the Centre, which will maintain working links with industrial and trade associations. It will also solicit proposals for TT. Two important questions are related to how to channel to both parties an effective access to concrete information about demand for specific technologies.

With regard to the latter question, the ITTC will provide members with advance information on potential new technologies and market to non-member technologies, which remain unused by the Centre members. Moreover, channeling funds for industry specific R&D activities, the Centre will organise and conduct training programs in technology management and related fields. The development of ITTC structure should perform the following activities:

- 1) identifying principal areas of cooperation between the leading organisations;
 - 2) recruiting human resources with appropriate expertise;
 - 3) proposing appropriate times for trade negotiations and agreements;
 - 4) the organisation being sufficiently flexible in order to meet current demands and evolve as conditions demand.
- Other important elements of the Centre are high visibility and transparency. Both are essential to counterweight eventual accusations of industrial espionage, subversion, etc.

The design of this international structure is the SME's answer to the increasing requirement of managing know-how, information, technologies, human resources important for the innovation process of these SMEs that are geographically dispersed.

In the past, international SMEs have been confined to a second level role and to develop only peripheric activities if compared to the core process of a multinational firm. Recently the importance of international activities is increasing and new shapes of sharing jobs among different entities are emerging.

The main reasons are connected to the:

- intrinsic characteristics of innovative technological process that in great part of sectors requires access to different know-how and integration of technological progress results in various fields;
- importance of time as a competition factor that requires a fast access to innovation sources, and a quick learning process and technological know-how metabolism;
- increase of international specialisation forms in the development processes of know-how more and more location-specific.

From that derives that the access to some know-how forms requires the presence in situ in order to activate and accelerate the learning processes, which subtend the innovation one.

That explains both the increasing strategic importance of foreign SMEs and the need for the multinational firms to define organizations at a global level and to improve coordination and integration efforts of activities performed by geographically separated units.

Then it is taking place a significant evolutive process that push the small and medium business firms to revise their organization in order to conceive it on a global level. The main trends are:

- 5) rationalization efforts of R&D at a global level;
- 6) tendency to assign to each unit well defined roles from a global, and not local, point of view;
- 7) better cooperation among the dispersed activities;
- 8) more focus of the technological activities carried out at each separated SME;
- 9) increased work shared among different units and the Center;
- 10) more decentralization and decision autonomy to the SMEs for the process acquisition and technological resource allocation.

In particular two clusters of structures at a global level emerge, one aimed at increasing specialisation among units, the other based on their integration.

The first one pursues to concentrate the resources related to a single discipline in a single unit and therefore to create work sharing ways at a global level through a specialisation in different discipline areas. The second one keeps pursuing ways of work sharing at a global level, but creates structures in which more units operate in the same discipline, admitting therefore some overlapping among activities and crossing themselves in the Center. Then the cooperation and integration role is played by the central unit (ITTC) which acts as the central node of a star structure.

Conclusion

Technology transfer through a the constitution of such Center avoids the disadvantages of hierarchical internationalization of R&D and the ones of spot transaction of innovation on the market. This preference for the transfer process is more obvious in the cases of know-how transfer rather than in the case of innovation production: especially in case of an unspoken knowledge it is better to carry out an agreement, instead of having a movement of experts or a permanent assistance from the firm transferring the innovation.

The general principles and indications presented can contribute to enhance the probability of transferring appropriate technology. However, the receiver of technology should be able to sustain and maintain the transferred technology. In fact these functions are among the most difficult tasks that the recipients of foreign technology may encounter, especially since the rate of technological proliferation is high and also because of the increasing activism for social changes in the world today. New needs are developing and these needs have to be continually satisfied in order to attain social stability.

Then the challenge has a double aspect: one is to begin and implement the evolution process of small and medium business firm organizations toward more appropriate forms of managing the product development processes in the present competitive global context, and the other one is to identify the most appropriate structure of the SME taking into account the various scientific and technological disciplines in which it operates.

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CULTURAL REQUIREMENTS FOR CREATING SMALL AND MEDIUM SIZE COMPANIES COOPERATION NETWORKS

João Amato Neto

Abstract

Inside the greater productive decentralization tendency/movement, *Small and Medium Enterprises* (SME's) find face to face a new economic context, which offers many opportunities for their development. In particular the emergency of the flexible especialization paradigm offers new business opportunities for SME's, specially in terms of *productive cooperation networks*. However, besides the traditional requirements (market structure, financial conditions, characteristics of the participants/partners, such as their qualification degree, their products, and so on), the possibilities of creation and the success factors for setting up a productive cooperation networks structure depends on a lot of cultural requirements (or to surpass "*cultural barriers*"). The purpose of this text is to present and discuss some of this kind of requirements referring to Latin American cases, and specially to Brazilian experience.

1. Introduction

The incitement of the competition conditions resulted from the new international economy rules (reorganization of the central economies, creation of large economy blocks, technological revolution, new ways of social organization of production work, etc.), have been imposing deep and urgent changes to the companies that intend to continue being competitive at the turning of the third millennium.

On the other hand, the new global economic conditions have forced companies to act globally and achieve world class manufacturing. Specifically, industry in developing countries have started to focus their strategies to meet international customer requirements such as achieving high quality products, being a low cost supplier and producing in shorter lead times. Particularly, on the organizational level, significant alterations are being imposed to the companies that look for more advantageous positions in the intercapitalist competition process.

Under this general conditions, the *Small and Medium Enterprises* (SME's) find face to face a new economic context, which offers many opportunities for their development. In particular the emergency of the *cooperation networks* and the new business opportunities for SME's, created by this new kind of organizational arrangement, depends on a lot of requirements in terms of the market structure, financial conditions, the characteristics of the participants/partners (as his qualification degree, his products, etc.) and so on. However, besides these traditional elements, the possibilities of creation and the success factors for setting up a *cooperation network* structure depends on a lot of cultural requirements (or "*cultural barriers*"). The aim of this text is to present and discuss some of the most important cultural requirements for creating small and medium size companies cooperation networks

2. Global economy context

The global economy crisis and the consequent reorganization in accordance with intercapitalist patterns, have been imposing an urgent necessity of organizational restructuring on large industrial enterprises (specially on the more dynamic ones in their respective markets).

In this sense, many companies have based their competition conduct or behavior on the Japanese industry's paradigm and its production management methods, that -- generally speaking -- may be resumed in the idea of "lean production" and in the "philosophies" of "total quality" and "just-in-time" production.

Such companies have started to adopt a strategy directed towards a greater productive decentralization. For this, they concentrated themselves on their "core business" and, in parallel, on developing/subcontracting a series of other companies ("third parties"), that are, in general, small and medium enterprises (SME's), specialized in activities/services of support, or suppliers of parts/components/subassemblies of final products.

This tendency/movement of greater productive decentralization involves the phenomenon commonly known as "outsourcing". Besides this a lot of other movements toward major productive decentralization are in course, such as: "focalization", "outsourcing", "horizontalization", "partnership", etc. All of these kind of organizational structures can support a greater managerial decentralization, by fragmenting the big productive structures in "*business units*" or "*small factories*" with greater operational autonomy. These units, belonging to the same corporation, should be interlinked through an "*evaluation chain*", that should justify this "horizontalization" strategy. The main purpose would be greater efficiency in the productive system as a whole (as a result of the new "net" composed by the business units), and consequently more, competitive advantages to the corporation.

Flexibility and agility have been identified as a necessity for maintaining global competitiveness (Goldman et al. 1994), therefore the concept of *cooperation network* has been proposed to be key element in the development of agile organizations. However, in developing countries, such as Brazil and Mexico, these new concepts and methodologies have to be adapted to meet the specific needs of the industry in each country.

3. Latin American Economies and the opportunities for Small and Medium size Enterprises (SME's)

Latin America as a whole has been recognized to be a growing market, especially countries such as Brazil and Mexico, which have shown in the last year an economical boom. In Brazil, for example, between 1995 and 1996 firms have invested nearly \$145 Billion USD, for a potential market of 150 Millions of persons. Mexico, with NAFTA and its population of nearly 90 Million has been the target of large USA and Canadian investments in the last year. In these countries opportunities have emerged not only for large multinational corporations, in sectors like automotive, electronics and communication, but to the national suppliers of these companies which has been pushed to fulfill the required standards (e.g. ISO 9000, QS and ISO 14000).

The best example is the automotive industry where companies such as Chrysler, Ford, Mercedes Benz and VW have tried to develop complete supply chains with national manufacturers and there are already cars where all components are manufactured by national firms such as: Stratus from Chrysler in Mexico. Another example is the new concept developed by VW in Brazil where suppliers are allocated within the assembly factory in the concept known as "The Modular Factory".

In these scenarios of economical grow, the concept of *cooperation networks* has an appeal for its development. Opportunities in Latin America will be for all types of companies (large, small and medium enterprises, and high-tech micro-companies), if adequate conditions are set for the creation of this new business opportunity. The sectors that are more suitable for the formation of cooperation networks are manufacturing and services, especially tourism, software, communication, education and information.

4. Requirements for the development of cooperation networks among SME's

The successful development of cooperation networks among small and medium size companies depends on a lot of specific conditions: First of all it relies on the existence of appropriate infrastructures. The necessary conditions for the rising of cooperation networks in such countries could be resumed in the next points, based on Goranson (1995):

- *Legal Infrastructure*: the needs for reforms in Government Policies in Latin American (LA) Countries
- *Physical Infrastructure*: creation of adequate telecommunication and information highways
- *Information Infrastructure*: development of reliable and accurate industrial databases.
- *Social/Cultural Infrastructure*: development of an Entrepreneur Culture in Latin American Small and Medium Enterprises (SMEs).

Next we are going to focus each of these points:

In terms of *legal infrastructure* one can say that the new economical agreements NAFTA (Canada, USA and Mexico) or Mercosur (South American countries) seems to satisfy the requirements for the development of SME's cooperation networks. However, there are still barriers in countries such as Mexico where until January 1997, it was possible for International Telecommunication companies (AT&T, MCI) to compete for national markets in telecommunication against the government company (Telmex). Nevertheless there are still a lot of regulations in Mexico about international connectivity and government restrictions in the use of telecommunication technologies. Brazil is facing a major problem in the infrastructure of telecommunications due to government policies, example of this is the lack of telephone lines where there are 8 lines for each group of 100 persons, comparing with USA where there are 68 line for each group of 100.

Nevertheless *physical infrastructure* is one of the critical barriers for the implementation of cooperation networks in LA, since it depends on a high investment in communication technologies. In some countries the cost to get a 64Kb line is very high, in others they do not exist. However, the enormous cost of such a line makes it inaccessible for small and medium sized companies.

Regarding the *Information infrastructure*, there is no reliable information about the state of industry in most of the LA countries, some studies have been carried out to identify Industrial Clusters in Mexico and Brazil, but the information is not widespread, and sometimes is kept for government policies (Thole 1997). A first effort in Mexico for the creation of an industrial information site is called SIEM (Acronym in Spanish for Information System for the Mexican Industry) which is a Web site where all the Mexican companies are supposed to subscribe. Nevertheless this effort has failed as there is no trust in Mexican government programs. On the other hand, standards for exchange of data are not widespread as well. Electronic Data Interchange (EDI) protocols are already used, yet the exchange of product model data using standards like IGES, VDA-FS or STEP is very rare, sometimes unknown.

5. Cultural requirements

Besides all of these kind of barriers discussed above, it is important to point out one of the most important requirement to creating SME's cooperation: It is the sense of trust among partners. This sense of trust is specially important in the business world, since all of the economic transactions involve risks, not only related to possible frauds, as to unpredictable events. These risks, if not under control, could avoid the realization of business, that would benefit all participants.

Based on *HUMPHREY & SCHMITZ (1998)* there are two ways to treat the risks: One is through the sanction that creates incentives, but also penalizes companies that don't act correctly. This is connected to the idea of opportunism (*WILLIAMSON, 1995*). To this author, all the companies have their price, all of them have their opportunism level. So, it is necessary to establish a formal agreement between the partners. The core argument here is the "*transaction costs*":

"Transactions involving uncertainties about their results are frequent and require investments in specific activities; therefore, these risks will tend to be internalized by the company (hierarchy). On the other hand, the simple transactions, not repetitive and those not requiring investments in specific activities will tend to be accomplished through the market (market transactions)." (*Williamson, 1995*).

So, in this sense, market and hierarchy refer to different forms of economic activity coordination. Meanwhile, there are coordination forms which are not assured by the company (hierarchy) neither by the market. They are exactly the result of cooperation among companies; they are the inter-firm cooperation networks, that are just based on confidence or trust.

Still according to *Humphrey & Schmitz (1998)*, many economies don't succeed in development, because there isn't the minimum trust among their companies. This is very bad, as it is known how important is to a company become competitive by establishing partner relationship with others.

Trust as key element in the cooperation relationship, is a decisive factor, that allows the partners respect the assumed commitments among the firms in the specific network, and it is also pointed out by other authors: *Joly & Managematin (1995)*, *apud León (1998)* present different aspects in this sense:

- the importance of the pre-existent social relations networks
- the importance of the mutual respect
- the learning of the relationship
- the importance of the reputation of each partner
- the risks involved in cases of opportunistic behavior, mainly in terms of the necessity of shutting out some partner from the network
- the learning of the social "savoir-faire", among others

In brief, one of the most important characteristic of the transition from the mass production paradigm to the flexible one, it is possible to think about a balance between competition and cooperation among companies, in terms of entrepreuring strategies.

Specifically talking about the social and cultural requirements for creating cooperation networks among SME's in Latin America, a set of problems or barriers can be identified, for instance:

1. lack of real commitment and confidence among the partners of this kind of network:
2. lack of resourcers in terms of information technology (IT). SME's are not used to deal with IT the same way that the big companies are used to do.
3. SME's don't use to cooperate with each other. Very often the companies owners ("the self-made men") are satisfied with their real situation and they aren't worried about any kind of new business opportunities.
4. The precarious organizational structure and the specific organizational culture of SME's is very often the main factor of a lot of problems involving the relationship with another companies or partners. The forms of cooperation are not always formalized in the sense of an official collaboration.

5. SME's are in general just concentrated in performing everyday operations and there is no vision for the long run.

6. Conclusions

Cooperation networks among SME's can be seen as a promising approach, since SMEs from LA countries have the opportunity to achieve global markets without losing their economic independence. Moreover, SMEs have their own identity and want to remain in such a way. *Cultural infrastructure* related to cooperation among partners has been a common practice in companies where the lack of resources has forced them to project and manufacture products in an outstanding creative and innovative manner, sometimes subcontracting, leasing or borrowing resources from other companies to achieve the desired results. These forms of cooperation are not always formalized in the sense of an official collaboration, instead they have been more seen as support among colleagues. Therefore, a must for cooperation is an already frequent practice of LA companies. However, a major problem for the cooperation among SMEs in LA is the lack of entrepreneur culture, companies owners are usually happy with their current success and they are not looking for new business opportunities, some companies are just concentrated in performing everyday operations and there is no vision for the long run. The fact is that SMEs usually are family business, where one person takes all decisions and there is no strategic plan for business or technology.

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INNOVATION, SMEs AND RURAL ECONOMIC DEVELOPMENT: SOME POLICY ISSUES

David Smallbone and David North

Abstract

This paper is concerned with innovation in rural SMEs in England, their support needs, and the types of policies required to encourage and support innovation. Based on a national study of innovation and the use of new technology in rural SMEs, undertaken in 1997, the paper uses empirical evidence from a survey of 330 firms. The research is based on a broad view of innovation that includes products, processes, marketing and market development. The paper examines the influence of some of the distinctive characteristics of the rural environment on the nature and extent of innovation in small rural firms, together with the implications for policy. Support needs identified in the research relate to marketing; the use of the Internet; process innovation; and access to specialized training. The final part of the paper outlines an agenda for future policy support for innovation in rural areas that includes a discussion of targeting and segmentation issues and a recognition of the so-called rural premium

1. Introduction

This paper is concerned with innovation in rural SMEs, their support needs, and the types of policies required to encourage and support innovation. The paper draws on a national study of innovation and the use of new technology in rural SMEs for the Rural Development Commission (RDC), undertaken at the Centre for Enterprise and Economic Development Research (CEEDR) (North et al, 1997).

Another important part of the context for the paper is the key role that is currently ascribed to SMEs in rural economic development in the UK. With the continuing decline of employment in agriculture and other traditional rural industries, the identification and encouragement of new sources of jobs for those living in rural communities has become a key priority in rural development, becoming more urgent as a result of population growth in many rural areas. Indeed, it is increasingly thought that the bulk of new jobs in rural areas are going to come from new and existing small firms, not just in service sectors, such as tourism and other business services, but also in some lighter manufacturing industries (Tarling et al, 1993).

Although previous studies have shown that SMEs in rural areas in the UK (particularly remote rural areas) have outperformed their urban counterparts in terms of employment growth (e.g. Keeble et al, 1992; Smallbone et al, 1993a), they have also pointed to a number of potential weaknesses in the competitiveness of rural firms that are associated with aspects of the operating environment in rural areas and firms responses to them. In this respect, it can be argued that the external environment in the more remote rural areas particularly, presents challenges for SMEs, which they need to adapt to if they are to survive and grow (Vaessen and Keeble, 1995). These include the limited scale and scope of local market opportunities which make it necessary for firms to be particularly active in developing non-local markets if they are to grow. This means that even if rural firms are successful in developing innovative products, effective marketing can be even more important than for similar urban-based firms if the innovation is to be fully exploited. Another aspect of the external environment in these remote rural areas is the rural labour market, in which relatively low wage levels in comparison with urban areas combined with qualitative characteristics of the rural labour force (e.g. loyalty to the firm) reduce the incentive for firms to invest in labour saving process innovations, particularly in the more craft-based sectors.

A further characteristic of the remote rural business environment is the lack of a local industrial and service milieu which means that there are fewer opportunities for firms to subcontract out locally than in an urban context. From the point of view of innovation specifically, the low density of the business population results in a small number of potential collaborating firms locally, as well as more sparsely distributed research and development, educational institutions and business support providers compared with some other types of location. This raises questions about the extent to which the characteristics of remote rural environments constrain innovative activity in SMEs; another issue concerns the implications of these features for the type of policy response that is likely to be effective.

2. The Nature and Extent of Innovation in Rural SMEs

Conceptualising Innovation

Innovation is an elusive concept which is difficult to define. One aspect concerns the extent to which the use of the term is confined to technological innovation. Another distinction is between those who define innovation at the level of the firm but in terms of what is new within the industry, and those who define it in terms of what is new to the firm itself, irrespective of how it compares with what other firms in the same industry or market segment are doing.

In this context, the approach used to defining innovation in this paper recognises 4 main principles: the need to view innovation in terms of changes which are part of the process of maintaining and improving a firm's competitiveness; the need to recognise different degrees of innovation, which involves being able to position firms in relation to appropriate indicators of innovation; the need to recognise the importance of the sectoral context as a framework for assessing the role of innovation as a factor influencing competitiveness; and the need to include various types of innovation, namely product or service innovation, production process innovation, and marketing innovations.

Database and Methodology

The empirical evidence presented in the paper is drawn from a survey of 330 firms located in rural districts, split equally between three regions of England (the North, South West, and East Anglia). 'Rural' districts were defined as those local authority areas in which at least 50% of the population live in settlements of less than 10,000 inhabitants. The aim was to select SMEs from both manufacturing and service sectors which are representative of the sectoral composition of SMEs in remote rural areas, not only throughout the 3 study regions, but throughout England as a whole.

Two types of interviews were conducted: telephone interviews (275) in order to give the necessary breadth of coverage; and face-to-face interviews (55) to give the required depth of analysis. All the interviews were conducted between July and October 1996. The data collected from each firm involved assessing the extent to which rural SMEs has been innovative and active in adopting new technology over a five year period (1991-96). Based on the application of the principles outlined in section 2 of the paper, four dimensions of innovation are considered¹: product and service innovation; new market development; and new process innovation, the results of which are presented below.

Product and Service Innovation

Managers were asked whether they considered any of their products or services to be innovative in any way. However, in order to provide a degree of control, we also undertook a more systematic assessment of the extent to which a particular firm's products or services could be considered innovative based on 'benchmark data'. These were gathered from sectoral information sources, including interviews with representatives of sector organisations, supplemented in the more scientific and technological sectors by the receipt of a SMART award ('Small Firms Merit Award for Research and Technology') or SPUR award ('Support for Products under Research'). On the basis of this sectoral information, each firm was assigned to one or 3 categories: (i) possessing 'highly innovative' products/services; (ii) possessing 'fairly innovative' products/services; and (iii) possessing no innovative products/services.

Just under half (44%) of the 330 rural firms had introduced products or services during the 1991-96 period which could be considered to be innovative in some way (based on our systematic assessment). The proportion was higher in manufacturing (49%) than in services (36%) (Table 1), reflecting the difficulties of achieving a high level of innovation in terms of the nature of the service offered in many service sectors². When firms were classified according to different degrees of innovation, 18% of firms were considered to have 'highly innovative' products and services, although this varied from 24% of manufacturing firms to 9% of those in the service sectors.

Table 1: Sectoral Variations in Innovative Products and in changes in the Product Range 1991-96

<i>Sector</i>	<i>Innovatory prods Inn (highly)</i>	<i>Changes in Product Range* None Mods New</i>	<i>Innovatory prods or new prods</i>	<i>N</i>
Mechanical Engineering	50% (36%)	36% 36% 27%	59%	22
Electrical Engineering	78% (44%)	26% 39% 26%	91%	23
Instrument Engineering	67% (44%)	28% 39% 33%	78%	18
Food, Drink & Tobacco	73% (26%)	22% 44% 33%	78%	27
Leather & Clothing	39% (13%)	35% 35% 26%	65%	23
Furniture	26% (13%)	35% 17% 48%	57%	23
Printing	23% (0)	41% 36% 23%	41%	22
Other Manufacturing	50% (23%)	32% 36% 27%	59%	22
All manuf. sectors	49% (24%)	32% 36% 25%	66%	180
Wholesale	10% (0)	70% 10% 20%	30%	20
Transport	18% (5%)	68% 9% 23%	36%	22

Auxiliary Transport	50% (14%)	43% 21% 29%	64%	14
Post & Telecommunications	7% (0)	67% - 27%	27%	15
Computer Services	53% (16%)	47% 5% 42%	68%	19
Research & Development	88% (29%)	53% 18% 29%	88%	17
Business Services	37% (12%)	46% 17% 38%	63%	24
Tourism and Leisure	37% (0)	58% 5% 32%	58%	19
All service sectors	37% (9%)	57% 11% 30%	58%	150
Notes:* none = neither new products nor modifications to existing products mod = modification to existing products new = one or more new products				

The sectoral variations in the degree to which the surveyed rural SMEs possessed innovative products and services were reflected in the extent to which they actively managed their product portfolio, which points to the differences in the way in which smaller firms seek competitive advantage in different sectors.

An important finding is that the firms with innovative products and services tended to be those which were most active in terms of developing new products and/or modifying existing products over the 1991-96 period. Thus 71% of the firms with 'highly innovative products' had made other types of product change compared with just 48% of the firms which did not have innovative products. Moreover, the innovative firms were also those which were most likely to be seriously investigating developing new products and services at the time of the 1996 survey. This suggests that future product or service innovations are most likely to come from businesses that are already innovative and actively managing their 'product' portfolio rather than from businesses which only engage in new product/service development from time to time.

Innovation and New Market Development

SME managers were also asked whether they had developed new market segments over the 1991-96 period and/or new non-local markets, including export markets. Their answers demonstrated a clear link between product and service innovation and new market development since the firms with innovative products were more likely (significant at the 0.01 level) to have developed new markets (new segments and/or new geographical markets) than those without innovative products (80% compared with 65%). The difference is particularly pronounced with respect to the development of new geographic markets (i.e. outside the firm's home region): 71% of firms with 'highly innovative' products compared with 41% of those without innovative products. It should also be noted that the possession of an innovative product appeared to significantly increase a firm's export potential: 52% of firms with 'highly innovative' products had developed new export markets between 1991-96 compared with 20% of those without innovative products. These findings therefore demonstrate that innovative firms are making an important contribution to economic development in these rural areas through generating income from non-local sales, particularly in terms of overseas markets.

The Introduction of New Marketing Methods

Managers were also asked if any new marketing methods (i.e. information about new markets, promotion, pricing and distribution) had been introduced since 1991 that were new to the firm. However, in order to discriminate between firms that had been introducing fairly standard marketing methods for the first time from firms which were introducing more advanced and innovative methods, managers were specifically asked about the use of the Internet for marketing purposes.

The results show that rural SMEs appear to have been less innovative in terms of introducing new marketing methods during the 1991-96 period than in other respects, reflecting one of the recurrent management weaknesses in small firms. Although about two thirds of surveyed rural SMEs had introduced some marketing method which was new to the firm during the 1991-96 period (particularly sources of market information and/or promotional methods), in only a minority of cases can the methods be described as highly innovative. For example, only 9% of firms had started using the Internet for marketing purposes during this period and these tended to be concentrated in just a few sectors (notably business services, post and telecommunications, and R & D). Comparative evidence from a similar period suggests that this is an area where rural SMEs are lagging behind SMEs generally since a national survey showed 16% of UK firms with less than 100 employees to be using the Internet (European Information Technology Observatory, 1995).

As well as exposing the low level of marketing innovation in rural SMEs, the study identified a potential weakness in many firms with 'highly innovative' products and services that needs to be addressed if the full benefits of innovation are to be achieved. Whereas 27% of all the surveyed firms had been particularly active in terms of marketing innovations (in that they had either introduced 3 or more new marketing methods between 1991-96 and/or were using the Internet for some aspect of marketing), only 19% of the firms possessing 'highly innovative' products achieved this level of marketing activity. In other words, firms that were the most active in terms of product service innovation were below average in terms of introducing new marketing methods during this period.

Process Innovation

The method used to measure the extent to which firms had been innovative in terms of process technology was undertaken in two stages. The first step was to characterise the technology base of each surveyed firms, taking into account sectoral differences in the importance of technology as an influence on the competitiveness of SMEs. This involved asking managers to identify the technologically most sophisticated equipment used at each stage of the manufacturing process, or in their core service provision in the case of service sector firms. The technology used was then coded into one of five categories: hand tools/methods; operator controlled equipment; automated (but non-computer based) equipment; computer aided equipment; computer controlled equipment. The second step was to assess the extent to which firms had been innovative in terms of introducing process equipment that was new to the firm between 1991-96, defined as that which involved more than straight replacement. By analysing the changes introduced in relation to information on technological developments at the sectoral level, it was possible to distinguish between process 'innovations' that involved relatively standard technology and those involving more advanced, 'state of the art' technology.

The results show that although almost three quarters of manufacturing firms and half of service sector firms had been innovative in terms of making changes (i.e. more than straight replacement) which were new to the firm between 1991-96, a much smaller proportion had been introducing processes which could be considered to be advanced within a given sectoral context. For example, when process innovation was defined in terms of the introduction of new computer equipment (into some stage of the production process in the case of manufacturing,

or into core service provision in the case of services), little more than a third of both manufacturing and service firms appeared to have been innovating during this period.

The analysis of the use of technology and process innovation in rural SMEs underlines the importance of the sectoral dimension when assessing innovation. The survey evidence showed that whereas in certain sectors keeping up to date with technological change is an essential requirement for most firms if they are to survive, in other sectors innovation in terms of process technology was much less common. In manufacturing, it tended to be in printing and the various engineering sectors where firms were most active in introducing computer controlled and assisted equipment during the 1991-96 period. By contrast, in other manufacturing sectors (notably clothing, food and furniture), only a minority of firms introduced advanced technology. In services, although the majority of firms in all 8 service sectors were using computers in some aspect of the provision of their core service, there is little surprise in the fact that firms in business services and computer services had the highest propensity to introduce a new type of computer equipment over the 1991-96 period, and firms in the transport and wholesale sectors the lowest propensity.

3. Barriers to Innovation and the use of External Assistance

In order to identify the factors which may inhibit SMEs in rural areas from innovating, managers were asked about any barriers the firms faced with respect to each of the main dimensions of innovation investigated. They were also asked about the extent to which they had previously used external assistance in order to help overcome these barriers.

In investigating the process of innovation in rural SMEs, we paid particular attention to the extent to which firms had used external assistance in relation to their own resources. This is because there is considerable evidence to suggest that efficient external communication can be a significant factor contributing to successful (technological) innovation, not least because of the importance to SMEs innovative activities of accessing external technological know-how (Rothwell, 1991). However, our empirical evidence shows that where rural SMEs had been innovative, they had achieved this largely using their own internal resources, although there were some variations between different types of firm and different types of innovation. For the majority of firms, the owner and/or managing director played a central role in the development of new product and service ideas and in many cases were the only people involved.

There is some evidence that SME managers view their rural location as disadvantageous in terms of encouraging and supporting product/service innovation. Of those firms which had been seriously investigating new product or service development and also identified at least one barrier to achieving it, about a third considered that their rural location was a constraining factor. Their location was judged to affect their ability to find skilled staff, to make it more difficult to build sectoral contacts and, because of the long distances involved, more difficult to develop non-local markets. At the same time, it must be emphasised that for the majority of firms, a rural location did not appear to be a serious constraint upon product and service innovation.

However, more detailed examination of our survey evidence suggests that a firm's propensity to make use of external assistance in the process of developing innovative products and services depends upon the sector it is in. Innovative firms in the instrument engineering and printing sectors were three times more likely to make use of external assistance than their counterparts in the mechanical engineering and furniture sectors. This reflects the greater technical sophistication of products in the case of instrument engineering and of process technology advancements in the case of printing compared with the other manufacturing sectors, making it necessary for firms to buy in specialist expertise. The need for specialist technical advice may again help to explain why the use of

external assistance tends to be greater in sectors like R & D and business services than in transport and wholesale distribution.

In terms of process innovation, more than three quarters of surveyed firms recognised the importance of the need to upgrade the firm's technological base and, of these, 85% identified at least one barrier to achieving it. Once again, by far the most commonly reported barrier was finance, both for improving process technology and for upgrading the firm's IT capability. Significantly, relatively few managers identified a lack of staff skills and/or a lack of technological knowledge on the part of managers as barriers to process innovation, although other recent research has shown that skills shortages are one of the most commonly reported constraints on SME development in rural areas more generally (CEEDR, 1998).

However, in contrast to product and process innovation, external assistance was more commonly used by those firms which had introduced some new marketing methods. This may reflect the fact that when asked specifically about their location in relation to marketing, a third of managers considered that their ability to market their product or service was adversely affected by their rural location. Thus whilst it must be stressed that 'remoteness' was not perceived to be a major problem with respect to marketing by the majority of surveyed firms, for a minority it represented an additional cost that needed to be offset by other locational advantages. The nature of the external assistance received with respect to marketing ranged from financial help in the form of grants to the simple provision of useful contacts. Less than a fifth of these firm used external consultants to access advice and expertise about marketing.

The overall conclusion with respect to barriers to innovation is that with the exception of marketing and new market development, the majority of managers did not perceive their rural location to be a major constraint on their ability to innovate. At the same time, it must be recognised that managers answers may be influenced by the relatively high level of self sufficiency with respect to the process of innovation. This may suggest that firms have either adapted to any potential disadvantage with respect to their rural environment or are prepared to balance any disadvantages against advantages in their assessment of their location. Those firms that appear to be at the most disadvantage are those in the more technology based sectors, which may help to explain why these sectors tend to be under-represented in remote rural areas.

4. Support Needs of Rural SMEs with Respect to Innovation

At the micro level, business 'support' typically refers to the external resources that a business needs to be able to draw upon from time to time in order to extend or modify its internal resource base. Any business needs access to resources if it is to develop, including access to adequate and appropriate finance, labour, premises, information, management skills and competencies. Whilst this applies to firms of all sizes, limited internal resources (particularly in terms of management and financial resources) are one of the disadvantages that smaller firms face in comparison with larger companies. As a result, from time to time SMEs might be expected to turn to individuals and organisations outside the firm for assistance with a variety of issues, ranging from specific problems such as information about specific markets, or advice about an appropriate upgrading of production technology, to more strategic issues such as the development of a marketing strategy or helping the firm to obtain external equity.

In seeking to identify the 'support needs' of SMEs, one approach is to simply ask managers what they consider the needs of their business to be. Whilst this may produce a list of 'wants', which a market orientated approach to business support must be sensitive to, in itself such an approach is not sufficient to define 'support needs', since the latter also implies some consideration of what the business is lacking in order to fulfil more of its potential, both for its owners and for the local (in this case the rural) economy. In this particular project, data generated from

interviews with SME owners/managers were analysed and assessed from the point of view of barriers to the firm raising its level of innovative activity and thereby increasing its contribution to rural economic development.

The study identified a number of instances where there are reasons for concern about relatively low levels of innovation, which require attention if SMEs are to remain competitive and achieve their potential contribution to the innovative performance of rural economies. Some of these relate to particular types of SME which are showing weaknesses with respect to innovation and new technology and would benefit from external assistance. Others relate more generally to the technological capability of rural economies, including the level of skills and competencies which exist within the rural labour market. This involves the introduction of policies aimed at overcoming the barriers to innovation which have been identified in the study. The specific areas of support need with respect to innovation identified were:

Marketing

Marketing is one of the types of assistance that is frequently required by firms that have been active in developing innovative products or services but which have been much less active in other respects, of which market development and the adoption of proactive marketing methods are among the most important. The marketing of innovative products and services frequently involves developing new geographical markets, including foreign markets. However, if this is to be achieved, small firms are likely to require specialist advice to help them identify and profitably exploit foreign market opportunities and, in many cases, direct practical assistance in doing so (e.g. in exhibiting products at trade shows in other countries).

Use of the Internet

Assistance in the use of the Internet, particularly for marketing purposes, is an area where rural SMEs would benefit from targeted policy support. Whilst the study has shown how the majority of rural SMEs were active in terms of introducing marketing methods which were new to the firm, most of these methods were fairly standard and very few firms introduced methods that could be considered to be innovative in any way. Very few firms had started using the Internet for marketing purposes.

The level of Internet use was especially low amongst manufacturing firms, and, in the case of service firms, it was found that it was significantly lower amongst SMEs in remote rural areas compared with those in accessible rural areas. Although more recent research has shown that the proportion of rural SMEs with Internet access is increasing (e.g. 24% in a survey of 150 SMEs in the East Yorkshire and North Lincolnshire RDA in 1998), only a small proportion were actually making effective use of information technology for marketing purposes (CEEDR, 1998). As more businesses make use of the Internet, there is a danger that rural SMEs may be disadvantaged by their slowness to exploit the technology now available to them. As others have noted (e.g. Ilbery and Clark, 1995; Ove Arup, 1996), the Internet promises to extend the market reach of firms in remote rural areas in various ways, including being able to exploit the potential of product and customer databases, advertising goods and services using websites, making it possible for goods to be ordered and paid for electronically, and providing better customer support through remote diagnostics. It would be ironic if the effect of the Internet was to make remote rural firms more rather than less marginal, given its alleged distance shrinking benefits.

Process Innovation

A concern arising from the study is the low level of process innovation and adoption of new technology in remote rural firms. There are 2 particular aspects which require attention, both of which apply to manufacturing rather than service firms:

- i. A key finding is that the level of process technology within manufacturing firms in remote rural areas is below that of firms in accessible rural areas, especially with regards to the use of computer technology in the main production process. Moreover, where remote rural firms use computer technology, they appear to use it less intensively than accessible rural firms. We have explained this in terms of the preference of remote rural firms for more labour intensive forms of development, encouraged by the relative cheapness of labour in these locations (North and Smallbone 1995, 1996). Whilst not threatening the survival of these firms, at least in the short term, this labour-intensive form of development may have an adverse effect on their ability to extent their market base and compete in non-local markets in the longer term.
- ii. The second indication of a lower level of process innovation within remote rural firms relates specifically to those sectors in which firms had a below average propensity to have introduced computer assisted or computer controlled equipment (i.e. food processing, clothing and furniture). In terms of changes over the 1991-96 period, firms in these sectors were lagging behind their accessible rural counterparts in terms of investment in more advanced machinery and equipment. Although firms in these sectors were typically involved in making changes in production equipment, these generally comprised less sophisticated, non-computer based methods. Moreover, it was also found that they were investing significantly less per employee than their counterparts in accessible rural areas. This invariably means a reliance on craft-based production in sectors such as furniture, and producing fairly low value added products for local markets in sectors such as food. The growth potential of these firms may be impeded, therefore, by their failure to invest in more advanced methods, partly because of labour market conditions in remote rural areas.

Improving Access to Specialised Training

Whilst evidence from the survey does not indicate a serious skills shortage problem, it should be remembered that the small size and occupational composition of rural labour markets is likely to prove a constraint on rapidly growing SMEs. Furthermore, an over-dependence upon 'in house' training is likely to have the effect of reinforcing the skill limitations which already exist within the firm. An increase in training that involves an external input will be necessary if rural SMEs are to upgrade their technological base and adapt successfully to using more advanced, computer-based equipment. Given the small size of the rural labour market, any policy intervention that is designed to deal with this aspect would need to be closely targeted at the needs of individual businesses. This might involve some form of subsidised training for new recruits (including a transport subsidy where necessary), or for the upskilling of existing staff.

5. A Future Policy Agenda

Innovation and Employment Growth

One of the key findings from the study from a policy standpoint is the relationship between the level of innovation demonstrated by firms and their performance, both in terms of sales and employment. Firms that demonstrated the highest level of innovative behaviour were growing in terms of sales and also generating employment, although it is important to stress that the relationship between innovation and growth is an interdependent and mutually reinforcing one rather than a simple cause and effect relationship. Nevertheless, the finding provides empirical support for a policy focused on support for innovation (broadly defined) in SMEs in rural areas and is an important message to be communicated back to the firms themselves. The firms which possessed 'highly innovative' products or services were significantly faster growing businesses than those with 'fairly innovative' or 'non innovative' ones, achieving an 80% increase in sales turnover in real terms over the 1990-91 to 1994-95 period compared with a 20% and 29% increase respectively. Moreover, they increased their employment by 50% between 1991 and 1996 compared with 27% and 22% increases for the other firms. The average (based on the median value) firm with 'highly innovative' products or services went from having 13 employees in 1991 to 20 by 1996.

Targeting and Segmentation Issues

Targeting those resources that are available for supporting small firms can be justified on a number of grounds. These include: the economic development benefits of prioritising firms that have the potential to generate sustainable employment; seeking to maximise efficiency and effectiveness in the allocation of scarce resources; and the potential added value arising as a result of the intervention (Smallbone, 1995).

In terms of the potential added value from targeted support, a major priority is firms that are showing an ability to develop innovative products or services but are finding it difficult to support this with effective innovative effort in other aspects of the business. The result is that the full potential of the innovative aspects is not realised because of weaknesses elsewhere. It is paramount, therefore, that policy-makers view innovation in terms of the business as a whole and not just singular aspects of it. In this context, there are two sub-groups of firms that warrant particular attention:

- iii. *Firms with innovative products/services but which find it difficult to support this with the development of other new products or by developing non-local markets.* The results from this study show that these are typically firms employing less than 20 employees. They are often firms where the owner-manager is required to play a multi-functional role, but where his/her skills and experience are chiefly confined to one area of the business, invariably to technical aspects (e.g. engineering design, software writing) rather than other areas such as marketing or the effective use of management information systems.
- iv. *Firms in sectors (such as electronic engineering, instruments engineering and R & D) where product innovation is crucial to business survival.* The importance of ongoing product or service innovation to the survival and growth of small businesses in these sectors justifies a targeted policy response in an attempt to ensure that the firms' innovative efforts bring the maximum benefits, both to the firms and to the rural economy.

Delivery Issues

It is important that those responsible for the delivery of support are sensitive to the sector specific requirements of small firms with respect to some support needs and they way in which they are delivered. Our findings show how the nature of innovative activity varies between sectors. More generally, there are areas where sector specific advice is desirable and others where it is essential, although the point to stress is that gaining the confidence of small business owners often requires sectoral knowledge. In view of the fact that a number of businesses referred to the difficulty of networking with firms in the same sector, an initiative that is designed to share the best practice experience of demonstrator innovators within sectors may be worth examining.

Although flexible delivery is essential in the provision of all types of external support for small firms where time spent away from productive activity (both for managers and workers) is always a potential barrier to the use of external assistance, this particularly applies in rural areas where long travel distances may be involved.

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1. The not included in this particular paper.
2. When managers were asked whether they considered their products and services to be innovative in some way, 58% did so, which is similar to the 56% of rural firms which took part in the University of Cambridge

national SME survey and considered that they introduced products and service innovations over the 1992-95 period (University of Cambridge, 1996).

A STUDY OF THE UNDERESTIMATION OF ENTREPRENEURSHIP IN AUSTRALIA

Denise K. Conroy and Damian Hine

Abstract

This research paper outlines an important new research project under way in Australia. The research is based around the proposition that existing national databases underestimate the extent of entrepreneurship in self-employed and micro-businesses in Australia. The research project is designed to extend awareness of the existence of self-employed and micro-businesses which are not profiled by the currently available national databases in Australia. The researchers in this project seek to explore the extent of this gap in the estimation of entrepreneurship in Australia based upon a comparison between official collections and an *alternative database* to be established during the research project. This requires a research design incorporating both qualitative and quantitative methodologies. The expected outcome of this research is a better understanding of an increasingly important sector of the Australian economy permitting better policy and program development at Federal and State levels. The desired *impact* of the research is to inform policy makers of the gap in micro-business data, to extend analyses of micro-businesses (90% of all small businesses (ABS, 1998b)); and to inform a developing area of teaching and research.

1. Introduction

National databases provide quantitative data on small businesses in Australia, yet the interest in small business research worldwide has led to a requirement to categorise small business more effectively so that analysis of sub-groups can be undertaken. The research study outlined in this paper seeks to undertake an exploratory approach to investigating the extent of the existence of business forms which are not well represented in national databases largely due to their size and the alternative nature of their operations. The methodologies used will incorporate both quantitative and qualitative approaches and the research will be the first of its type and extent in Australia.

With the increased focus on small business has come a heightened awareness of the distinction between small business classifications (DWRSB, 1998), namely:

- self-employed -- those firms employing only the owner,
- micro-businesses -- those firms employing fewer than five people (usually excluding the agricultural sector),
- small business -- all manufacturing with fewer than 100 employees and all other non-agricultural business with fewer than 20 employees.

There are other definitions of small business:

- agricultural firms where the nature of the agricultural operations is between \$22,500 and \$400,000 (ABS, 1998c),
- own account workers who have no employees, and employers in unincorporated enterprises (Revesz and Lattimore, 1997).

The primary aim of the research is to verify the existence of a gap between the numbers of entrepreneurs (in this research study entrepreneurs are regarded as micro-businesses or self-employed persons) identified in official statistical databases and the number of actual, operating entrepreneurs. Therefore, the focus of this research, and an area lacking empirical analysis, is the extent to which there is under-estimation of entrepreneurship (Light and Rosenstein, 1995). That is, how much "entrepreneurship" is either "ignored" or under-estimated in existing studies or in official data collections on small enterprises.

2. What is meant by entrepreneurship?

The essential form of entrepreneurship is defined by Low and McMillan as the 'creation of new enterprise'(1988, p.141). Therefore new and very small firms and their owners can be considered to be at the centre of the entrepreneurship push. It has also been identified that entrepreneurship is a 'process of becoming rather than a state of being' (Bygrave, 1989, p.21). This means that small business often commences as a self-employed or micro-business. If their existence is supported then they are provided the opportunity to grow and create employment for others (Mazzarol, et.al., 1997).

There has been a great deal of effort expended in Australia and internationally to define entrepreneurship (Cole, 1989; Cunningham and Lischeron, 1991; Filion, 1997; Garavan and O'Cinneide, 1994; Kets de Vries, 1996; Krueger, 1997; Schiller and Crewson, 1997). This has considerably advanced the cause of small business research and policy. Aligned to this work on entrepreneurship is the important contribution of the literature on new firm formation (Aldrich, 1990; 1993; Baum and Haverman, 1997; Howard and Hine, 1997; Specht, 1992). Each has stressed the need for a supportive external environment, generally considered to be the political, socio-cultural, economic and technological factors which affect the competitiveness of a business. Non-supportive external environments are not conducive to healthy founding rates of businesses (Aldrich, 1993).

Little is known about these businesses. More needs to be known so that they can be encouraged to innovate and grow, especially employment opportunities. This may mean bringing them into the institutional framework which may produce short-term pain but which, in the long-term, will create value for the business and the economy. Therefore, there are substantial secondary benefits in identifying the extent of these businesses, particularly as a first step to their legitimisation and formalisation as business entities.

3. Public policy and small business

Public policy has direct influence over at least one of the major external environmental factors in this institutional framework -- the political environment -- in which the new, very small businesses operate. The state of these businesses needs to be transmitted directly to policy-makers, so that a more supportive external environment can be developed. In Australia, there has been an increasing public policy and industry emphasis on assisting small business. This has been evidenced by the Small Business Ministry being elevated to Federal Cabinet, and the number of reports and commissioned studies focusing on the contribution of small business to job generation, internationalisation and innovation (Carmichael Report, 1994; DIST, 1997; LEK, 1994; McKinsey, 1994; Micro-Business Consulting Group, 1998). Most public policy targeted at small business is based on data available through the Australian Bureau of Statistics (federally) and departments business/industry at State level. Databases, including the Census, Characteristics of Small Business, and the Business Growth and Performance Survey, do have specific questions designed to elicit responses about small business ownership (see Table 1).

The national importance of micro-businesses is indicated in the report of the Micro Business Consultative Group 'Under The Microscope -- Micro Businesses in Australia' (1998). There are 67,000 micro-businesses in Australia, making up 85 per cent of all private non-agricultural small businesses. Their contribution to GDP and regional development is significant. (ABS 1998b).

One of the major problems becoming apparent is that the data gathered on small business is not dedicated data, because much of it is compiled as supplementary or uncategorised data in the major collections such as the Census and the Labour Force Survey. Further, questions contained in these collections fail to take sufficient account of businesses which are newly forming, are being run in conjunction with paid employment and/or which function outside traditional business formats. The major piece of research relevant to small business, currently the Business Longitudinal Survey, provides very little information on this. Anecdotal evidence indicates that a large number of businesses function, at least partly, outside the regulatory framework.

Table 1 - 'Scope' of Data Collections

	D.I.S.T. BUSINESS GROWTH PERFORMANCE SURVEY ¹	A.B.S. SMALL BUSINESS SURVEY ²	A.B.S. CENSUS ³	A.B.S. PERSONS EMPLOYED AT HOME ⁴	A.B.S. MULTIPLE JOB-HOLDING ⁵
In	- Sample of Business Units	- Labour Force Supplementary (sample of households)	- Census of Population - All person in Australia on census night	- Labour Force Supplementary - (sample of households)	- Labour Force Supplementary - (sample of households)
Out	- Non-employing businesses - Government enterprises - ANZSIC codes 01 - 04 36 - 37 71 81 - 82 84 86 - 87 96 - 97 and 921, 922, 923	- Agricultural businesses - Non-agricultural businesses employing 20 or more	- Persons overseas - Persons not contacted	- Unemployed persons	- Unemployed persons - Service in Reserve Defence Forces - Persons by nature of employment working for more than one employer (e.g. babysitter, odd-job) - Persons working for payment in kind - Persons working without pay in family business
Period	- Financial year (to 30 June) - or 12 months October-Sept	- "Last week" - (Reference week)	- Week prior to Census date	- "Last week" - (Reference week)	- "Last week" - (Reference week)

Data Collection	- Self-enumeration	- Personal interview/telephone interview	- Self-enumeration	- Personal interview/telephone interview	- Personal interview/ telephone interview
Data Type	- Longitudinal (5 years) 1995-1999	- Snapshot data	- Snapshot data	- Snapshot data	- Snapshot data
Sample Source	- ABS Business Register - (June '95 Benchmark)	- Labour force respondents who were operators of small business	- All private & non-private dwellings, shelters, transit persons	- Labour force respondents working more hours at home than elsewhere	- Labour force respondents working one hour or more in a second job
Def'n Small Business	- Micro - business = employing fewer than 5 people	- Employing fewer than 20 people	N/A	N/A	N/A
Sample Size	- 1300 Business units	- 0.5% Total population	-Total population	- 0.5% Total population	- 0.5% Total population
Labour Force Status	- Working proprietary partner/director - Managerial employees - Employees - Family business - Decision-maker	- Own account worker - Employer - Working director	- Employee - Employer - Own account worker - Contributing family member	- Employee - Employer - Own account worker - Contributing family member	- Employee - Employer
Sources:	1. DIST (1997); 2. ABS (1998b); 3. ABS (1996a); 4. ABS (1996b); 5. ABS (1997).				

This research seeks to identify and highlight these business forms as they are the potential growth businesses of the future and it is in the interest of the national economy to ensure barriers to growth and legitimacy are minimised (Aldrich, 1993). These various micro-business forms may be the basis of entrepreneurship in the Australian economy as they create business and, potentially, jobs and new markets (particularly in the case of on-line businesses for example).

4. Current state of research

Current published data and literature providing comparative studies of self-employed and micro-businesses is strongest in identifying characteristics based on gender differences, organisational size, funding and finance, legal issues, ethnicity and employment status (ABS, 1998b; DIST, 1996; Hine et.al., 1996; Howard and Hine 1997; Still, 1994). Certainly in Australia, most literature on small business focuses on established businesses, as these are the most accessible and easier to research and obtain supporting data. However, there is a need for specific attention on "hard to access" populations which are unlikely to surface in telephone surveys, focus groups, organisational memberships or self selected samples. One such population is "home-based" or "own account" workers, direct sellers, market sellers, electronic commerce operators, informal sub-contractors and whose activities occupy that grey area between business and hobby.

Current Australian research and data collection is based on business entity or employee status and ignores:

- single entrepreneurs/owners (no employees, partners or family involvement);
- unpaid helpers,
- entrepreneurs involved in party plan, network sales, "market" operators/organisers whose income is based on commission rather than wages/salary/hourly rates;
- franchisees and other "own account" workers who work at or from home;
- newly emerging business forms such as on-line business;
- those in a transition stage between wage or salary earning and self-employment. (ABS 1998a; 1998b; 1998c; DIST, 1997; Roffey et.al. 1996).

Each of the above points indicates the need for greater decomposition of small business data so that each group can be studied in greater depth with similarities and differences being identified.

The research project is in its early stages. The Australian Taxation Office Cash Economy Unit, as an industry partner, has provided support. Other potential industry partners are showing substantial interest which will culminate in an Australian Research Council Strategic Partnerships with Industry Research and Training (SPIRT) Grant application in April 1999. It is expected that more resources can be directed toward these businesses if they can be better identified and the extent of their proliferation clarified.

5. Where to next?

As indicated in the previous sections, the development of public policy assumes the accuracy of the data contained in these national databases. If the business forms are under-represented in the databases then they will be under-represented in policy. Specific questions relating to the state of being self-employed, or involvement in varying forms of micro-business are lacking from the national and state surveys (Revesz and Lattimore, 1997). Consequently insufficient data is being gained on these forms of business, and the consequence goes beyond mere statistical inference.

Given the recognition of the increasingly critical role of small business in the Australian economy (ABS, 1998b; Mazaroll et.al., 1997; McKinsey, 1994), accurate data on all categories of small business will improve the responsiveness of government policy to their needs as well as the ability of industry bodies such as the Australian Chamber of Commerce and Industry, the Australian Business Foundation and Home-Based Business Australia, to represent the interests of these constituencies.

More extensive studies of entrepreneurship have been undertaken in the United States where there is a more comprehensive Census database with larger cell sizes (Light and Rosenstein, 1997; US Census Bureau, 1998). The proposed Australian research can assist national data gathering bodies, such as the Australian Bureau of Statistics, in making their databases more comprehensive.

There is a blossoming body of literature, albeit largely conceptual, postulating the emergence of new businesses as an economic force in many developed economies (Cannon, 1996; Reynolds, 1996). This apparent trend will be indicated by data showing increasing numbers of small businesses and falling average employment numbers in these businesses (ABS, 1998b). Many reasons can be promulgated for this emergence. For example the incidence of micro-business is said to be increasing due to:

- contraction in the public sector and downsizing in large private sector organisations; this means that the residual private sector employment share must grow;
- rapid growth of part-time employment in the economy leading to an increase in homebased and family-based businesses, including as "second jobs";
- recent trends to "contracting out" or "outsourcing" functions/activities;
- increase in the number of women re-entering the labour market to either work in the family business, or work at/from home; also women are exiting major/large organisations to accommodate part-time work with child care/elder care;
- improved information technology (the virtual office) means that micro-businesses can be run by one person.

Based upon these events, the current growth in the number of new small businesses and the decreasing size of many business enterprises signify the growing importance of this group of firms as an emerging sector in the Australian economy.

6. Goals of the study

The project has a number of identifiable goals. Some goals pertain to the focus of individual industry partners, others are broader goals for the entire project. These goals are listed below, though as industry partners are added new goals may emerge. This will be made possible by a modular approach to the research. The overall project will comprise a series of sub-projects that will cover different areas of entrepreneurship. The Australian Taxation Office Cash Economy Unit is interested in direct sellers, another industry partner represents home-based businesses; another potential industry partner has displayed interest in the research in terms of ethnic involvement in alternative business forms, and yet another partner is interested in participation rates based on gender and age groups. Descriptive goals of the proposed study are to:

- extend the current scope, definitions and data collected via official statistics on micro businesses to achieve a greater representation of this sector in data bases;
- conduct a survey of home-based business owners/operators and franchisors/franchisees and compare results with official statistics (data triangulation);
- compare and contrast patterns of activity in different industry sectors (e.g. job generation, export, production, investment);
- provide data enhancement for estimation of regional growth potential;

- conduct qualitative analyses of the "cash economy" sector via party plan operators, direct sellers, online sellers, market operators and other 'own account' workers.

Analytical Goals of the proposed study are to:

- analyse, in depth, selected variables collected in the 1991 & 1996 censuses, 1997 small business survey and business growth and performance surveys (1995-96 and 1996-97);
- analyse the environmental, organisational and demographic factors which explain entrepreneurship/micro-business development (i.e. place the data via surveys, qualitative analyses and additional quantitative analyses, into a public policy context);
- analyse the impact of micro-business activity on job generation and innovation;
- explore business networks/alliances (particularly in the franchise industry);
- link patterns of micro-business activity to government policies (incentives/ disincentives).
- The objective of the research is to provide evidence of the extent of:
 - the 'cash' economy;
 - the under-estimation of "enterprise growth";
 - the under-estimation of use of business networks/alliances;
 - exploitation of sub-contractors by "unethical" entrepreneurs (eg. operating without code of practice, outside business regulations),
 - the under-estimation of occupation/industry activity or ethnic or gender participation in industry sectors.

As stated previously, these objectives have relevance and interest to a wide range of government and non-government bodies.

7. Methodology

The proposed methodology for this research involves both quantitative and qualitative methods such as focus groups, depth interviews, case studies, and surveys where access to identifiable populations is possible. Standard ABS coding will be used for occupation, industry, qualifications, country of birth (and which have international comparisons) to allow for checks on reliability, validity and representativeness using demographics from census data.

Classification difficulties will be explored, especially definitions of 'home-based' and 'family' businesses and ANZSIC categories of direct sellers (ATO 1998). Outworkers (persons employed off-site) are defined in some studies as employees, in others as self-employed. Measurement of micro-business activity is confounded by definitional, methodological and regulatory inconsistencies and these, too, will be analysed as part of the research project.

Where possible there will be a replication of questions used in existing data collections (see Table 1) to allow for comparisons based on different and enhanced sample compositions. The literature supports the need for extension of existing scope and coverage criteria. (See for example McDonald et al, 1994; Newton and Hurt, 1995; Wagner and Fulford, 1989).

Using mixed methods can be well justified. Goodwin and Goodwin concluded that 'many studies could be enhanced considerably if a combined approach were taken'. In a similar vein, Reichardt and Cook admonished readers that 'it was time to stop building walls between methods and start building bridges' in Leedy, 1992, p. 30). On combining methodologies, Wass and Wells believe that 'through combining perspectives, weaknesses are minimised'. (1993, p.3). For example, quantitative methods can be used to bolster the reliability and generalisability of naturalistic research data (LeCompte and Goetz, 1984; and Firestone, in Wass and Wells, 1993) and it is this format which the proposed study will follow.

Inductive research is necessary in the exploratory phase of this research as the literature is insufficient to permit a deductive approach. The quantitative paradigm will be implemented when the inductive, subjective results are obtained. It is then appropriate to utilise the quantitative hypothetico-deductive approach to test and confirm the findings of the exploratory research instruments, particularly when it can be seen as more objective and provides for greater validity when the two are combined. This is particularly so if the findings of the exploratory phase are supported by the findings in the confirmatory phase of the research (Desphande, 1983).

8. Conclusion

The research focus is both exploratory and explanatory, and will be based on data triangulation using quantitative and qualitative techniques. The major outcomes will be provision of data not currently collected in official statistics or where there is, perhaps, an under-representation in statistics due to differential 'scope rules'. In addition, there will be provision of information that can be used to argue for changes to be made to current collections, or for new data collections to satisfy the policy analysis needs of different constituencies of micro-business. This same data will provide for enterprise differentiation.

There is interest in discussing this research project with others who have had experience in similar studies. Though the focus is not an international comparative study, the problems facing researchers in Australia due to the lack of sufficiency of data, may have befallen researchers in other countries. Obviously this research is in its early stages and, as with most exploratory research studies, the methodological direction of the research must not be excessively constricted. A proposed methodology exists, but the path to be taken over the next three years may be windy. Input into these areas from other researchers would be valuable as shared insights can enhance positive outcomes.

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THE COMPARISON AND ANALYSIS OF THE HUMAN RESOURCE OF R&D IN TAIWAN'S HIGH-TECHNOLOGY ENTERPRISES

Shir-Tau Tsai, Aiching Tseng, and Shu-Hsiao Tsen

Abstract

The research was aimed at comparing and analysing the human resources of R&D in Taiwan's High-Technology enterprises. Five high-technology enterprises, namely Taiwan Semiconductor Manufacturing Company (TSMC), Weltrend, Holtek, Realtek and Vanguard International Semiconductor (VIS), were selected as the cases for the study. The results appeared that in recent three years, a trend of high terminal degrees, young, and less working experience was observed for the employees at these companies. The R&D annual budgets of the same companies enjoyed a huge growth. According to the analysis of the core competence of the enterprise, it appears that the variables have an impact on the enterprise's R&D function..

1. Introduction

Taiwanese government has set out a goal to move the nation toward "The Technological Island." How to raise the nation's capabilities in R&D has been a major concern when planing future competitive strategies. As a result, the high-technology enterprises in Taiwan have been rising, flourishing and maturing under the promotion and encouragement of the government policies in decades. This research will compare as well as analyze the manpower conditions and discuss the function of R&D development of high technology enterprises in Taiwan.

2. Core Competencies

Different sizes of business have diverse competency in R&D department. Large businesses have the ability to improve their capabilities by introducing know how from outside to drive the development of research, and to raise the technical capabilities by means of "Learning by doing". On the other hand, small businesses can only find their chances in the area with strong substitutional relations. That is doing research or introducing outside technology of low-end and lower cost. Nevertheless, small and medium enterprises buy in the needed technology from overseas to substitute for their own R&D, may not be beneficial to the companies' development of R&D in the long run.

Matching the employees' core competencies with the competencies needed for the both stages of R&D and manufacturing is the key to the successful development for businesses. A company has to recruit, develop, and maintain the best employees in order to build up the company's core capabilities and to be able staying in business.

At VIS (Vanguard International semiconductor, 1997), the core competencies are the process of product development and manufacturing of DRAM. Weltrend is doing business in the R&D, production, testing and sale of the products of digital & analogue combined application-specific IC (ASIC), Digital IC and Analogue IC (Weltrend, 1997). Weltrend's products include Peripheral ICs, Consumer Electronics ICs, and ASICs ... etc. Therefore, the core competency of Weltrend is focused on R&D and testing of electronic products.

The competitive advantages of TSMC are R&D for production process (TSMC, 1997). The core competence of TSMC is on logical memory, advanced process module, CAD, and mask process, ...etc. Holtek focuses on logical IC products (54.3%) (Holtek, 1997). The rest of its products includes communication IC (9.2%), peripheral IC (8.7%), consumer electronic IC (36.4%), memory IC (12.5%), and wafer foundry (33.2%). Holtek's expertise is at diverse technologies of process, such as photo-electronic, high-voltage, special low-voltage, and nonvolatile ... etc. R&D for IC, Memory Process, 3C Integration, and System-on-wafer ... etc. are all Holtek's core competence. Realtek is developing, manufacturing and selling the following products: consumer electronics IC, peripheral & multimedia IC, other ASIC and related application software (Realtek, 1997). Table 1 shows the sales percentage of all products and annual growth of Realtek in 1997. It also indicates the core competence of Realtek.

Table 1 - Realtek 1997 Annual Sales & Growth Report (Unit: NTS 1,000)

<i>1997 Net income</i>	<i>Consumer electronics Div.</i>	<i>Peripheral & Multimedia Div.</i>	<i>Communication & Network Div.</i>
1,835,728	545,743	535,057	754,928
Sales (%)	29.8%	29.1%	41.1%
Growth (%)	22.5%	2.4%	40.3%

3. Profile of Employees

Employees at the five companies mentioned before, including TSMC, Weltrend, Holtek, Realtek, and VIS, have the common characteristics of high schooling, young, and little working experience. We would get ideas for the characteristics of the employees from the annual report of these businesses.

In Table 2 indicate the data for The Number of Employees (by position category) at TSMC.

Table 2 - The Number of Employees (by position category) at TSMC

<i>Direct Employees</i>	<i>Engineering Division</i>	<i>Management Division</i>	<i>Total</i>
1,578	1,372	462	3,412
1,830	1,715	572	4,117
2,712	2,200	681	5,593

Table 3 shows the Number of Employees at TSMC.

Table 3 - The Number of Employees at TSMC

<i>Year</i>	<i>Total Number</i>	<i>Average Age</i>	<i>Average Service Duration</i>
1995	3,412	28	3.3
1996	4,117	28	3.3
1997	5,593	28	3.3

Table 4 exhibits the data of The Number of Employees (by Division Category) at Weltrend.

Table 4 - The Number of Employees (by Division Category) at Weltrend

<i>Year</i>	<i>Administration /Finance</i>	<i>Sales</i>	<i>Technique</i>	<i>Total</i>	<i>Average Age</i>	<i>Average Service Duration</i>
1995	6	8	39	53	30	2.6
1996	7	7	42	56	31.5	3.5
1997	6	7	48	62	32.5	4.2

Table 5 shows the condition of The Number of Employees (by Division Category) at Holtek.

Table 5 - The Number of Employees (by Division Category) in Holtek

<i>Year</i>	1995	1996	1997
Engineer	454	609	894
Administration/ Sales	171	201	187
Technician	333	340	440
Driver/Guard/Janitor	12	12	12
Total	970	1162	1533
Average Age	28.5	29.7	30.6
Average Service Duration	2.8	2.9	2.8

Table 6 indicates the condition of The Number of Employees (by Division Category) in Realtek.

Table 6 - The Number of Employees in Realtek

<i>Year</i>	1995	1996	1997
R&D	117 (54%)	109 (54%)	118 (54%)
Administration/Sales	76 (35%)	71 (35%)	74 (34%)
Quality Controlling	24 (11%)	23 (11%)	27 (12%)
Total	217	203	219
Average Age	31	31	32
Average Service Duration	4	4	4

Table 7 Express the condition of The Number of Employees (by Division Category) in VIS.

Table 7 - The Number of Employees (by Division Category) in VIS

<i>Year</i>	1995	1996	1997
Direct Employee	1160	1007	680
Indirect Employee	731	581	361
Total	1891	1588	1041
Average Age	29.2	28.8	29.8
Average Service Duration	0.82	1.34	2.7

There are findings can be extracted from above tables. First, the average age of employees at these companies are between 28 and 32.5 year-old, and have work experience from 0.52 to 4 years. Second, the population of engineers is higher than that administrative staff.

Because R&D of a high technology company require not only professional knowledge but also the ability in improving products and creativity. Therefore, high-tech industries value the importance of employees' potential talent in product improvement or in R&D.

4. Comparison of Terminal Degrees of Employees

The high schooling for the manpower in high-tech industries, makes R&D more feasible than in the traditional industries. From the 1997' s annual reports of TSMC, Weltrend, Holtek, Realtek, and VIS, one can easily see this point.

Table 8 expresses the ratio of employees' schooling at TSMC.

Table 8 - The Ratio of Employees' Schooling at TSMC

<i>Year</i>	<i>Doctor Degree</i>	<i>Master Degree</i>	<i>University/ Collage Degree</i>	<i>Senior High School</i>	<i>Under Senior High School</i>	<i>Total</i>
1995	1.6	15.3	38.7	43.3	1.1	100
1996	1.8	19	37.8	41.3	0.1	100
1997	1.8	20	37.6	40.5	0.1	100

Table 9 indicates the ratio of employees' schooling at Weltrend.

Table 9 - The Ratio of Employees' Schooling in Weltrend

<i>Year</i>	<i>Doctor Degree</i>	<i>Master Degree</i>	<i>University/ Collage Degree</i>	<i>Senior High School</i>	<i>Total</i>
1995	1	5	39	8	53
1996	1	5	42	8	56
1997	2	5	42	12	61

Table 10 shows the ratio of employees' schooling at Holtek,

Table 10 - The Ratio of Employees' Schooling at Holtek

<i>Year</i>	<i>Doctor Degree</i>	<i>Master Degree</i>	<i>University/ Collage Degree</i>	<i>Senior High School</i>	<i>Under Senior High School</i>
1995	0.1%	12.27%	54.12%	32.47%	1.03%
1996	0.6%	17.9%	53.53%	27.19%	0.77%
1997	0.65%	18.4%	56.88%	23.42%	0.65%

Table 11 exhibits the ratio of employees' schooling at Realtek.

Table 11 - The Ratio of Employees' Schooling at Realtek

<i>Year</i>	<i>Doctor/ Master Degree</i>	<i>University/Collage Degree</i>	<i>Senior High School</i>
1995	19%	60%	21%
1996	20%	58%	22%
1997	29%	51%	20%

Table 12 shows the ratio of employees' schooling in VIS. (Insert Table 12 here.)

Table12 - The Ratio of Employees' Schooling in VIS

<i>Year</i>	<i>Doctor Degree</i>	<i>Master Degree</i>	<i>University/ Collage Degree</i>	<i>Senior High School</i>	<i>Under Senior High School</i>
1995	45	214	418	356	8
1996	57	369	626	528	8
Growing Rate	26.6%	72.4%	50%	48.3%	0
1997	63	428	771	621	8
Growing Rate	0.1%	16%	23%	17.6%	0

In the founding stage of a high-tech company, most workforces graduated from senior high schools, colleges, universities; but, for now, as shown in the tables, the ratio of employees having master's or doctoral degrees are growing.

This may due to that high-tech enterprises are willing to pay much more attention to recruit people with higher degree to upgrade their R&D capabilities for staying the competition.

5. Annual Budget for R&D

The funds involved in R&D show the attitude for upgrade existing products and investment for new products. It also a good indicator of the company's perception for the business operations and perspectives.

Analysing the last three years' expenditure for R&D would exhibit the whole picture of the perspective of companies.

Table 13 shows the R&D expenditure at TSMC.

Table 13 - The R&D Expenditure at TSMC

<i>Year</i>	<i>Amount (Unit: NT\$1,000)</i>	<i>Growing Rate (%)</i>
1995	747,684	
1996	1,493,999	99.8%
1997	2,505,303	67.7%

Table 14 expresses a profile of the R&D expenditure at Weltrend

Table 14 - The R&D Expenditure at Weltrend

<i>Year</i>	<i>Amount(Unit: NT \$1,000)</i>	<i>Growing Rate(%)</i>
1995	43,438	
1996	54,818	26.2%
1997	70,199	28%

Table 15 shows a profile of the R&D expenditure at Holtek

Table 15 - The R&D Expenditure at Holtek

<i>Year</i>	<i>Amount (Unit:NT \$1,000)</i>	<i>Growing Rate (%)</i>
1995	208,207	
1996	316,209	51.9%

Table 16 indicates the framework of the R&D expenditure at Realtek

Table 16 - The R&D Expenditure at Realtek

<i>Year</i>	<i>Amount (Unit:NT \$1,000)</i>	<i>Growing Rate(%)</i>
1995	170,935	37.1
1996	191,948	12.3
1997	269,331	40.3

Table 17 shows the R&D expenditure at at VIS

Table 17 - The R&D Expenditure at VIS

<i>Year</i>	<i>Unit (NT\$1,000)</i>	<i>Growing Rate(%)</i>
1995	456,712	
1996	769,938	74.4%
1997	1,129,165	41.7%

There is a large increase for R&D expenses in the last 3 years. This enable the companies to raise the quality and quantity of R&D employees. These companies were able to keep the advantages of competition and enjoyed a growing revenue during the same period.

6. Findings and Conclusions

The developments of human resources mainly depend on the trend of enterprises' need; it makes business thriving and vigorous when raising the employees' capabilities and cultivating the core competency of business.

The flourishing achievements on economical development in past 30 years in Taiwan have gained the international recognitions.

In recent years, because the prosperous development on industrial enterprises, many talent persons from ITRI (Industrial Technology Research Institute, a high-tech research institute sponsored by Taiwanese government.) were recruited to the private enterprises. The R&D capabilities have been improved.

At the meantime, besides the output of semiconductor are the fourth place in the world, computer hardware get the third place, and many products get the first place of market share (ITRI, 1998). These achievements are contributed by the efforts of R&D staff and other members in the high technology industries.

There are still several expectations for the R&D developments at the high-tech enterprises in Taiwan. A global vision, a future-oriented strategies in developing products, the emphasis on intellectual property, capitalising the business opportunities of new products, and building up the capabilities and competency for technology rooted and developed in Taiwan are among the most important ones. It is obvious that Taiwan's R&D community will have a long way to go.

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INITIAL FINANCING AND THE NEW FIRM PERFORMANCE

Mario Raposo and Maria Jose Silva

Abstract

The main purpose of this research is to determine the relation existing between initial financing and the new firm performance. The research was developed in peripheral region of Portugal, involving a sample of firms belonging to the following industrial sectors: Textile and Metallurgic and Metallic Materials.

The data was submitted to a statistical analysis bivariate and multivariate. The clusters analysis results, allow to identify five groups of new firms with different performances. The results also permit to conclude that the initial financing resources and financing structure have some influence in the performance during the early years of life.

1 - Introduction

New ventures play an essential role in the economic development of a region or country (Storey, 1985). In general, it is acknowledged the contribution of new ventures to the creation of new jobs (Storey, 1985 and Birley, 1986) as well as to the acceleration and dissemination of technological innovation (Reynolds, 1987) and also in the development of new products to the dynamisation of the productive process (Storey, 1982).

New ventures are also regarded as stability factors of the society and economy as a whole (Raposo and Catena, 1990). Furthermore, they dynamise higher competition both at national and international level (Suárez, 1997). According to Veciana (1990, p.3) "the creation of new ventures is not only the sap of the economic system but it also determines to a great extent their competition and capacity of self adapting to new realities besides, they are the most effective way to create new jobs".

The contribution of new ventures towards the economic development of regions and countries is undeniable, however, these effects will only be stable if the new ventures survive and develop. Reality shows that some of the new ventures achieve high levels of performance and contribute significantly towards socio-economic development, however, others disappear in their early years. The importance of new ventures and the study of the problems which affect them has raised the interest of the scientific and academic community. Therefore, it is not surprising that a significant number of researchers have devoted themselves to study the factors which interfere in the performance of new ventures.

From the revision of the literature referring to this subject, two main currents stand out: one which emphasises the factors related to the entrepreneur and the environment and the other which focuses on the strategic analysis and industry sector.

More recently, new research appeared which analyses the impact that the initial conditions of new venture creation have in their performance. Among the various initial conditions, several researchers single out the initial financing as the determinant factor in the subsequent performance of firms (Brüderl, Preisendörfer and Ziegler, 1992 and Cooper, Gimeno-Gascon and Woo, 1994).

Thus, by following this guideline, this research has the general goal of entering deeply into the subject regarding the new venture initial financing and how it relates to their subsequent performance. To carry out this analysis, we used secondary data referring to new ventures of the industrial sectors of textiles, base metallurgy and metallic products of a Portuguese region, in this case, the Castelo Branco District. The obtained data was submitted to several statistic processes through the statistic program SPSS -- Statistical Packages for Social Sciences.

2 - The influence of initial financing in the new firms performance

A new venture requires adequate financial resources to begin and develop its activity. In fact, any firm has to take into account the following three situations: first, which funds are required to begin the activity, second, which funds are required to keep the activity going and, finally, where to obtain the funds required for both effects (Steinhoff and Burgess, 1993). In this way, the firm should obtain the required and adequate financing resources to meet the financial needs of the star-up, functioning and development of the entrepreneurial activity.

The financial resources may assume several forms since they are the result of the various options considered by the entrepreneur or the founding team when the new venture is created. All forms of financing derive from two specific sources, namely: financing through equity capital and financing through debt capital.

The equity capital corresponds to the financial resources provided by the partners or shareholders, which is accumulated with the wealth generated by the firm itself. When choosing the financing through equity capital, the firm does not add to its creditors, does not engage in obligations, does not have to offer guarantees (Esteves, 1994). The income attributed to this form of financing are directly linked to the results achieved by the firm, and are presented as dividends or distributed results.

The availability of equity owned is a critical factor at the beginning of the activity of the firm (Hustedde and Pulver, 1992), because the financial resources required by a new venture are usually above the personal capacities of the entrepreneur and/or those generated by the firm itself, which forces the founding entrepreneur or team to acquire these resources from external sources.

When choosing the financing deriving from debt capital, the firm is engaging in debt before third parties and "its use implies the obligation of paying the resources made available, within a limited period of time, regardless of which results are achieved by its use. With exception of the supplier credit, the existence of debt capital implies the payment of interest according to the terms agreed" (Esteves, 1994:23).

Therefore, in this research it is considered that the initial financing resources correspond to the amounts both of equity capital and debt capital invested in the firm.

In several research works, insufficient initial financing resources were considered to be among the main causes for the failure of new ventures (Greisman and Gray, 1982; Broom and Longenecker, 1987; Bruno, Leidecker and Harder, 1987; Gaskill, Van Auken and Manning, 1993; Lamberson, 1995 and Zimmerer and Scarborough, 1996).

Brüderl, Preisendörfer and Ziegler (1992) and Cooper, Gimeno-Gascon and Woo (1994) state that new ventures with higher initial financing resources stand better chances of resisting the critical period of the beginning of the activity as well as of reaching a higher growth, that is, they have the possibility of achieving higher performance levels.

According to these authors, new ventures with low initial financing resources have significantly higher failure rates. From the analysis of these research works, we can say that there is a general consensus, as to the fact that the existence of adequate or high amounts of initial financing improves the chances the new venture stands of surviving and achieving a good performance.

The combination between equity capital and debt capital is called financing structure. Thus, the financing forms that new ventures use when they are created determine the initial financing structure and condition the performance of new ventures in their early years (Wucinich, 1979; António and Trigo, 1991 and Van Auken and Doran, 1992). In some research works, unbalanced financing structures deriving from an overwhelming presence of debt capital were considered to be responsible for the new venture performance throughout its existence (António and Trigo, 1991; Van Auken and Doran, 1992 and Raposo and Oliveira, 1996).

3 - Purpose of the research

Since the main lines of research within this field have been identified in literature, and having verified that the initial financing has been regarded as a determinant factor in the performance of new ventures, and given the shortage of studies within this field in Portugal, it was considered of great importance to enter deeply into the subject of the influence of initial financing in the new venture performance of in order to support the development of microeconomic policies.

Starting from a sample of industrial new ventures of the sectors of textiles, base metallurgy and metallic products from the Castelo Branco District, the first goal of this research was to identify the existence of groups of new ventures with different levels of performance.

Next, as the second goal, we intend to analyse whether the identified groups show differences in their initial financing resources and financing structures.

4 - Methodology

4.1 - Sample

According to Cochran (1981) the research works on the factors which influence the failure of new ventures, carried out at a more restricted level, like an activity sector or a particular region, can be more useful than wider research involving an entire country.

Therefore, the universe of this research includes all the surviving new ventures created less than five years ago, independent and legally established under a juridical form, located in the Castelo Branco District and belonging to the sectors of activity of textiles, base metallurgy and metallic products. The choice fell upon these industrial sectors because they are the most representative in the region and they have similar asset structures (BPA, 1997).

The selection criteria was matched by 46 new ventures, 8 of which did not present enough data to be included in the analysis. Therefore, we retained 38 new ventures for analysis, which constitute the final sample corresponding to approximately 83% of the new venture population. Approximately 55% (21) of these new ventures belong to the textile and clothing industries whereas 45% (17) belong to the base metallurgy and metallic products industries.

4.2 - Variables used in the analysis

The performance of new ventures is measured by taking into account the obtained results, from several points of view, through a diversified set of variables. Despite the performance of new ventures has been studied in several research works (Brush and Vanderwerf, 1992; Brüderl, Preisendörfer and Ziegler, 1992; Cooper, Gimeno-Gascon and Woo, 1994 and Bamford, Dean and McDougall, 1996) there is not, however, a general consensus as to which variables to use when assessing performance. For this study, we selected the variables more used in research works on the performance of new ventures:

- *average evolution of the number of employees*, which reflects the *firm growth* during the analysed period. This variable corresponds to an increase or decrease of the number of workers during the years of activity of the firms, going from the first year until the last year of in which the data was gathered (1996).
- *average evolution of the business volume*, which corresponds to an increase or decrease in net sales both of products and/or goods and services rendered, during the years of activity of the firm. This variable accounts for the *firm commercial dynamism*.
- *business volume of 1996*, which corresponds to the total of business volume (sale of products and/or goods and services rendered) of the last year in which the data was gathered. Once divided into classes, this variable intends to reflect the *firm dimension*.
- *survival*, which corresponds to the years of activity of the firm. It is calculated through the difference between the year in which the data was gathered and the year in which the new venture was created. This variable shows the *time of survival of the firm*, which can be range from 1 to 5.

4.3 - Data obtaining and processing

Given the difficulty in obtaining accounting and financial data directly from the new ventures, it was decided to use secondary data obtained through the Ministry of Treasury -- *Direcção Geral das Contribuições e Impostos* -- *Direcção Distrital de Finanças de Castelo Branco*.

This secondary data was submitted to a statistic process, using the statistic program SPSS (Statistical Packages for Social Sciences). Several kinds of analysis were used such as bivariate (cross-table) and multivariate, namely: Cluster Analysis, Oneway-ANOVA Variance Analysis and Discriminate Analysis.

Exploratory cluster analysis was used with the aim of verifying whether there were significant differences in the new venture performance, which could enable to classify them in different groups. To reach this goal, variables of performance were used (evolution of the number of workers, evolution of the sales volume, business volume and survival).

Since the variables used in the cluster analysis are expressed in different units and scales, a preliminary standardisation of those variables was performed, in order to make the average null and the standard deviation unitary. The preliminary standardisation of variables enables to minimise the issue of the distance measure (used in the next step), which may reflect especially the weight of the variables that present higher values (Reis, 1988). Among the various distance measures which can be used in the analysis, we chose the Squared Euclidean Distance. Among the various aggregation or desegregation criteria, we chose Ward's method, which tries to optimise the minimum variance within groups. This method was chosen because it is frequently used by several researchers and it is considered to be very reliable (Birley and Westhead, 1994; Carter, Stearns, Reynolds and Miller, 1994;

McDougall, Covin, Robinson and Herron, 1994; Raposo, 1994; Hanks, Watson; Jansen and Chandler, 1994; Ferreira, 1997 and Dinis, 1997). The decision regarding the adequate number of clusters to retain, was made with the help of the dendogram and fusion coefficients as well as by examining the decrease caused in the value of the sum of squared errors, as we moved from one group of clusters to another.

Once the cluster analysis is performed, we test the significant differences in the average of clusters for each of the four single variables using the Oneway ANOVA variance analysis. The results for each variable in each cluster are presented on Table 1. The "F" test referring to the variables used in the five defined groups, shows that the variables used are significant for the inclusion of the firms in the five clusters.

Duncan's amplitude test to a significance level of $p < 0,05$ was used to determine the statistic significance of the differences between the cluster average values (Norusis, 1993). The use of this test enables to identify the differences between groups, which means that the variables used are significant for the inclusion of the firms in the five clusters and that there are enough significant differences between groups to enable their classification. In order to examine the specific differences between clusters, a discriminate analysis of the five clusters and four variables was performed, using the direct entry method. According to this method, all the variables are introduced simultaneously in the analysis, that is, each independent variable is included in the analysis regardless of its discriminating power (Malhotra, 1993). We have also calculated the correlation (or discriminate loading) between the independent variables and the discriminate functions.

In order to test the validity of the obtained discriminate functions, a classification matrix was calculated. For each group, it shows the result of the number of firms correctly and incorrectly classified in the corresponding groups. From the validation of results, it was concluded that 92,1% of the firms were correctly classified in their groups through the use of discriminate functions. In this way, it was proved that the firms of the sample were adequately classified in the five clusters.

5 - Presentation and discussion of results

The first proposed goal was to identify the existence of significant differences in the performance of new ventures which could enable to classify them in different groups. In general, the obtained results support this purpose. Five clusters with different performances were identified in the cluster analysis (Table 1)

Table 1 - Results of the Cluster and Oneway Analysis (ANOVA)

		<i>Variables</i>				
<i>Clusters</i>		Evolution of the number of employees	Evolution of the business volume	Business Volume of 1996	Survival	Nº of cases
Cluster 1	Average	-0.2515	-0.1748	0.0078	1.3526	9
	Standard Deviation	0.2114	0.3902	0.7221	0.3990	(23.68%)
	Average	0.0063	-0.2983	3.2143	1.0161	2
Cluster 2	Standard Deviation	0.6313	0.2293	0.1319	0.0000	(5.26%)

	Average	0.3754	0.4118	-0.4518	-0.5738	20
Cluster 3	Standard Deviation	0.1831	0.2088	0.1648	0.6904	(52.63%)
	Average	3.0450	0.8665	0.9748	-0.2457	3
Cluster 4	Standard Deviation	1.3821	2.3263	1.4197	0.4371	(7.90%)
	Average	0.1273	1.9515	-0.2581	-0.4981	4
Cluster 5	Standard Deviation	0.4100	0.9568	0.3288	0.0000	(10.53%)
Oneway Results	F Value Sig.	45.133 0.000	11.230 0.000	25.441 0.000	20.246 0.000	0.000

Contingence tables (cross-tables) were formulated in order to characterise the obtained groups as shown on Table 2

Table 2 - Characterisation of Groups (clusters)

<i>Variables</i>	<i>Total of Sample</i>		<i>Group 1</i>	<i>Group2</i>	<i>Group 3</i>	<i>Group 4</i>	<i>Group 5</i>
	Nº	%					
Evolution of the number of employees Growth			(%)	(%)	(%)	(%)	(%)
Negative evolution	4	10.5	22.2		10.0		
Positive evolution - small	27	71.1	77.8	50.0	85.0		50.0
Positive evolution - medium	1	2.6			5.0		
Positive evolution - large	6	15.8				100.0	50.0
Total firms	38		9	2	20	3	4
Evolution of the business volume Commercial Dynamism			(%)	(%)	(%)	(%)	(%)
Negative evolution	5	13.2	22.2		15.0		
Positive evolution - small	19	50.0	33.3	50.0	65.0	66.7	
Positive evolution - medium	1	2.6			5.0		
Positive evolution - large	13	34.6	44.4	50.0	15.0	33.3	100.0

Total firms				38		9	2	20	3	4
Business volume of 1996 (in 1,000 PTE) Dimension					(%)	(%)	(%)	(%)	(%)	(%)
Level 1-	0-	5000	9	23.7	11.1		40.0			
Level 2-	5,001-	10,000	5	13.2			20.0			25.0
Level 3-	10,001-	30,000	12	31.6	33.3		35.0	33.3		25.0
Level 4-	30,001-	100,000	5	13,2	22.2		5.0			50.0
Level 5-	100,001-	300,000	4	10.5	33.3				33.3	
Level 6-	300,001-	500,000	3	7.9			100.0		33.3	
Total firms				38		9	2	20	3	4
Years of activity Survival					(%)	(%)	(%)	(%)	(%)	(%)
1 year			9	23.7			45.0			
2 year			10	26.3			20.0	66.7		100.0
3 year			8	21.1			35.0	33.3		
4 year			7	18.4	55.6	100.0				
5 year			4	10.5	44.4					
Total firms				38		9	2	20	3	4

To verify whether there is a relation between each of the identified groups of new ventures and the various aspects of initial financing, which we intended to analyse, cross-tables were done between the various financing variables and the identified groups of firms.

In this way, we tried to analyse whether there were significant differences in the initial financing resources for each of the identified groups of new ventures. For that purpose, the total initial capital was considered as a financing variable, corresponding to the amounts of equity capital and debt capital invested in the firm in the year it was created, that is, they represent the resources used for financing the start-up of the activity. The crossing between this variable and the various identified groups is presented on Table 3:

Table 3 - Initial Financing Resources

Variables	Total of Sample		Group 1	Group 2	Group 3	Group 4	Group 5
	N°	%					
Total Initial Capital (in 1000 PTE)			(%)	(%)	(%)	(%)	(%)
Very Low [$<5,000$]	11	28.9	22.2		30.0	33.3	50.0
Low [5,000 - 10,000]	12	31.6	44.4		35.0		25.0
Medium [10,001 - 50,000]	9	23.7	11.1		35.0		25.0
High [50,001 - 100,000]	3	7.9	11.1	50.0		33.3	
Very High [$> 100,000$]	3	7.9	11.1	50.0		33.3	
Total firms	38		9	2	20	3	4

Another aspect of the initial financing which we try to study is to identify whether there are significant differences in the initial financing structure for each identified group of new ventures. Since the forms of initial financing that are used by firms when they are created determine the initial financing structure, in order to test that purpose we made the crossing between the forms of initial financing and the various identified groups. (Table 4).

Table 4 - Characterisation of the Forms of Initial Financing

Forms of initial financing		Total of Sample N=38	Group 1 n=9	Group 2 n=2	Group 3 n=20	Group 4 n=3	Group 5 n=4
		(%)	(%)	(%)	(%)	(%)	(%)
Short-term debt capital	Commercial bank loans	1.9	1.1	3.6	3.0	0.0	1.5
	Suppliers	17.1	13.3	13.1	40.2	9.5	11.7
	Partners/Shareholders	3.4	5.0	0.0	10.6	0.0	0.0
	Customer advance payment	0.3	0.6	0.0	0.5	0.0	0.0
	State/Other public entities	3.4	4.4	3.8	3.0	2.5	1.6
	Other creditors	7.4	11.1	4.0	13.4	1.8	3.3
	Total of short-term debt capital	33.5	35.5	24.5	70.7	13.8	18.1

<i>Medium and long-term debt capital</i>	Commercial bank loans	15.8	38.8	11.2	5.0	0.0	0.0
	Partner/Shareholders	22.4	0.2	55.0	11.3	12.8	61.1
	Other creditors	8.8	15.6	0.0	0.0	19.9	0.0
	Total of medium and long- term debt capital	47.0	54.6	66.2	16.3	32.7	61.1
<i>Equity capital</i>	Capital stock	17.3	9.9	0.6	12.2	53.5	20.8
	Additional instalments	2.1	0.0	8.7	0.0	0.0	0.0
	Investment savings	0.1	0.0	0.0	0.8	0.0	0.0
	Total of equity capital	19.5	9.9	9.3	13.0	53.5	20.8
Total initial capital		100.0	100.0	100.0	100.0	100.0	100.0

The obtained results allow us to make some comments. Thus, it is admissible to consider that the variables used in this analysis are relevant to explain the new venture performance, confirming the goals we had established previously. Thus, through the analysis of the presented tables it can be underlined that:

Cluster 1

This group includes the firms having more years of activity (4 and 5 years), which can be considered as already *established* firms. They present an average annual sales volume of 68.7 million PTE, which indicates that they are predominantly of average dimension. They are also characterised by having an average commercial dynamism and a weak evolution of the number of employees, which may indicate a weak growth for the firms of this group. Regarding the financing resources, in the first group of firms, we verify that as a whole they present average initial financing resources.

In relation to the financing structure, these firms resort mostly to debt capital, from which stand out as major forms of financing the medium and short-term commercial bank loans (39%) and other creditors (27%).

Cluster 2

This group includes established firms with four years of activity, which have the largest business volume (an average of 400 million PTE), that is, they present a very large dimension when compared to the other firms of the sample. These firms also present, as a whole, an average growth and commercial dynamism.

In this group, we verify that the percentage of firms which show high and very high initial financing resources is much higher than the percentage of the other firms of the sample in this category, therefore, it can be considered that the firms of this group present very high initial financing resources.

As for the initial financing structure, it is verified that the initial financing derives mostly of debt capital, however, we verify that the main form of financing are the medium and short-term loans obtained from partners (55%). The use of this form of financing enables to overcome the insufficiencies of capital stock that might exist.

Cluster 3

The set of firms of this group presents a very small evolution of the business volume as well as a small evolution in the number of employees, therefore, it is admissible to consider that these firms show a weak commercial dynamism and growth. These firms are also characterised by having small dimension and few years of activity (1 to 3 years). Therefore, they are very recent ventures, which have not yet overcome the critical period of survival. That fact, according to Özcan (1995) generally occurs from the third to the fourth year of activity.

The firms of this group present low initial financing resources, given the fact that the percentage of firms with low and medium initial financing resources surpasses the percentage of firms of the sample in each of those categories. In relation to the financing structure, the firms of this group are financed mainly through debt capital. We verify that the main form of financing is the supplier credit (40%).

Cluster 4

The firms of this group show a large evolution of the number of employees and an average evolution of the business volume, which may indicate that these are firms with large growth and average commercial dynamism. These are firms of large dimension and few years of activity.

In this group, the percentage of firms with high and very high amounts of initial capital is much higher than the percentage of firms of the sample in the same categories, therefore, we can assume that the firms of this group, as a whole, present high financing resources.

As for the financing structure, the firms of this group are financed mainly through equity capital. The partners/shareholders constitute the main source of financing (66%), under the following forms: capital stock (53%), loans obtained from shareholders (13%).

Cluster 5

The firms of this group are included in the highest level of business volume, which may indicate that these are firms with great commercial dynamism. They are very recent ventures which also present an average growth and dimension.

In this group, the firms present low and average initial financing resources. Regarding the financing structure, the firms of this group are financed mostly by debt capital, however, we verify that the capital holders (82%) are the main source of financing, under the following forms: medium and short-term loans obtained from partners (61%) and capital stock (21%).

6 - Conclusions

Given the performance characteristics of the new ventures of the sample, it was possible to identify five different groups of firms. We also verified that the new ventures of the groups 2, 4 and 5 show higher levels of performance than those of the groups 1 and 3.

The reading of the obtained results seems to indicate that the initial financing resources and the identified group of firms are connected. In fact, the firms which have more years of activity and larger dimension are the ones that possess higher amounts of initial financing. These results are very similar to those reached by other research works (Cooper, Dunkelberg and Woo, 1988; Duchesneau and Gartner, 1988; Brüderl, Preisendörfer and Ziegler, 1992 and

Cooper, Gimeno-Gascon and Woo, 1994), which mention that if having higher initial financing resources, new ventures stand better chances of resisting the critical period of the activity start-up as well as of achieving high levels of performance. We also verified that small firms with low level of growth and weak commercial dynamism, are those which have lower initial financing resources. These results are in accordance with the conclusions reached by previous empirical research works (Bruno, Leidecker and Harder, 1987; Brüderl, Preisendörfer and Ziegler, 1992; Cooper, Gimeno-Gascon and Woo, 1994 and Lamberson, 1995) since they mention that firms with lower financing resources have difficulties in surviving and succeeding.

Regarding the initial financing structure, the obtained results suggest that there is no relation between the source of initial financing and the new venture performance, considering that four groups of firms (group 1, 2, 3 and 5) are financed mainly by debt capital and show a wide range of performance levels. Contrarily to the conclusion reached by the empirical research carried out by Van Auken and Doran (1992), that the new ventures financed mainly by debt capital stand lower chances of surviving and developing when compared to the new ventures with low levels of debt capital, a fact which suggests that the source of the initial financing and the levels of performance are linked; it does not seem to be the case in this research work.

It was verified that in the groups of new ventures with higher levels of performance (group 2 and 5), in spite of the fact that they are financed mainly through debt capital, the forms of financing with higher influence in their initial financing structure come from internal sources, namely from capital holders taking the form of loans obtained from partners. Groups 1 and 3, which present lower levels of performance, are financed mainly through external sources. However, it has to be underlined that in relation to the debt capital origin, the commercial bank loan is the main form of financing of the firms of group 1, whereas the firms of group 3 are financed through supplier credit. The realisation that supplier credit is the main form of external financing for the firms of group 3 may, on one hand, derive from the fact that the credit offered by suppliers is cheaper than the credit given by banks. It may also, on the other hand, be caused by the difficulties that new ventures face in order to obtain bank financing as a result of the fact that they are rather unknown; similar conclusions were presented by other researchers (Storey, 1982; Stiglitz and Weiss, 1981 and Brito and Mello, 1994). That may be also be due to the fact that these firms have a great degree of uncertainty attached (Muller, 1972).

As for the firms of group 1 in which we concluded that bank loans are the most important form of financing, this probably derives from the fact that the firms included in this group are well known, because they have more years of activity and consequently less difficulties to obtain bank credit.

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A DYNAMIC MODEL FOR REGIONAL DEVELOPMENT WITH THE NETWORK-SOURCING MNC

Staffan Gullander and Christer Kedstroem

Abstract

Restructuring of European industries has a large impact in regional areas, causing economic and social concerns. This paper presents a model for regional development based on simultaneous development of local firms along their own needs. The model is an amalgamation of experiences from regional development and corporate strategy theory of network sourcing, with a supporting role from the supplier association tool for horizontal and vertical competence development. Knowledge from studies of called Industrial Districts is also incorporated. The model allows for proactive work in regional development, resulting in minimization of negative regional effects, and fostering positive developments under regional restructuring conditions. An illustrative case of implementing the model on a typical regional area concludes the paper.

1. Introduction

As a result of ongoing restructuring processes in many industries in Europe, recurrently large changes occur in the regional areas connected to purchases and mergers of companies in the same industry. A particularly threatening situation is when the future of a regionally large company suddenly turns highly uncertain -- will the company be that unit in the new ownership constellation that will disappear, will it be subject to some kind of restructuring, or will it become the unit that is planned to be more of a center for growth? Authorities and people in the region will most often become surprised, and facing the uncertainty, the reaction is very different: some will issue a call for regional or even national rallying around a theme to prevent or forbid negative changes, some we will appeal to new owners for nice treatment, large financial compensations will be requested for any closures, etc. Sentiments run high!

In Sweden this is a burning issue with the not too late and very current large international corporate mergers taking place: Pharmacia-Upjohn and Astra-Zeneca in pharmaceuticals, Saab Automobile-GM and Ford-Volvo Car in the automotive sector, STORA-Enso in forestry and Nordbanken-Merita in banking. Will the head-office of the Swedish counterpart be moved abroad, where will the R&D function be located etc. are examples of typical questions being asked.

How can these potentially negative consequences of restructuring be handled and even better -- forestalled? How can we prepare us to come out as the winning party in such restructuring -- becoming the party that will be subject for growth and development? These are the major questions dealt with in this paper. Mastering the situation, and going from reactive to proactive management is the desire.

Our main approach in handling these regional economic issues is picked up from the field of corporate strategy, and more precisely the theory of sourcing large MNCs through a network of interrelated suppliers in charge of supplying components, subsystems and systems. These suppliers are becoming increasingly more competent and specialized, in line with the present outsourcing wave in numerous industries. The centre of gravity of knowledge is moving from the customer to the suppliers. The important knowledge is becoming increasingly difficult to physically move from one location to the other, and the distance between the customer and the supplier becomes

more important. We thus claim it is necessary to focus the overall supply network system of the MNC, in understanding the potential positive or negative impact of structural changes on a particular MNC.

In the paper we will develop our line of argumentation as follows: firstly we will describe weaknesses in present day practices in regional development, then we will focus corporate strategy in network sourcing. We will then present some recent network enforcing tools, and try to understand different ways in achieving competence development in a supply chain. Thereafter we will merge the two parts above, and see how a corporate strategy view can "solve" a difficult regional problem. Finally we will present a simple case demonstrating our model, outlining the changes over time needed to prepare a regional industry against outside threats of change.

The perspective of the paper is regional, dealing with regional development from the responsible authorities viewpoint, but also from the corporate angle, encompassing both the large MNC and the typical SME-suppliers. This is a win-win situation, where awareness of each others position, will help synergetic developmens to occur.

Sources of inspiration to this new thinking, resulting in a dynamic regional development model, are derived from knowledge of agglomerations (industrial districts, clusters), cooperation between companies in networks, and organizational learning.

The empirical foundation of the research is the personal experience of the authors having worked fulltime in executive positions in related issue areas during some 20 years in industry in Sweden and abroad. In addition research in the field, strengthened by consulting and advisory roles to both private companies and public organizations, has contributed immense empirical material.

2. The regional development perspective -- practice and deficiencies

A common regional situation in Sweden is to have a group of SME firms with a few, very limited number of large companies, all in the same regional location. Regional development is usually pursued along two kinds of avenues: business development and competence development. We will now look into these in turn.

2.1. Business development

Business development focuses on finding new customers or new businesses. Using the framework of (Ansoff, 1965), focusing on the two dimensions customers and products, the famous four-field matrix is identified: (1) existing customer/existing product, (2) existing customer/new product, (3) new customer/existing product, (4) new customer/new product. The combination (1) is thus the present situation. All other combinations involves a new element, product or customer or both.

The experiences from creating something new, irrespective of the combinations above, are very discouraging -- the likelihood of failure is higher than the likelihood of success, measuring the outcome in this process in the simple digital mode of success versus failure. The most difficult combination is of course number 4.

Furthermore, for the outcomes that really are successful, it takes according to the experiences from the venture capital field a long time or some 7 years -- before the money that were put into the venture are payed back. And of course it takes even longer time to receive a gain. The conclusion is thus that putting the stakes on new businesses is very risky, and when successful results are obtained, it takes a long time to receive them.

Oppositely, it is not that difficult to penetrate the existing business, i.e. combination 1. We can here deal with different penetration strategies in the market, and successive marginal improvements in existing products.

We could express the situation as such, that by working in this area, and try to stretch the borderlines visavis both new customers and new product over time, we increase the chances for success. In fact, is this not the way firms actually proceed in developing their businesses?

From anecdotal experience of the authors, the most practised combinations by public regional actors such as the County board, are number 2, 3 and 4, i.e. the most difficult combinations. Investigations from expensive consulting firms frequently support the development work. Often regional officers find themselves becoming project leaders in risky private firm business development projects. Such officers often lack both educational and experiential knowledge, and maybe even the critical individual personal characteristics, to actually perform well in such activities marked by their highly entrepreneurial character.

How come this unfortunate misallocation of resources has arisen? One interpretation is that the firms keep the existing business to themselves, not letting outsiders in. This is so maybe because they are afraid of letting outsiders mix up in existing business, reinforced by the firms own comparative advantage in handling the familiar existing business. In addition, since new developments are so risky, it is tempting to load off these activities to outside regional partners, who in good faith are willing to accept the risks. If the firms would reflect upon entering the new developments at their own risk, they might not be willing to undertake them. In other words, we achieve an unfortunate negative segmentation of the business development, and no wonder the successes for new developments don't turn up.

We would also like to mention that the seducing dream of finding the revolutionary new business idea, that will allow the region to prosper, all too often will be an invited guest in the business development process.

The conclusion from this reasoning is that a lot speaks in favour of business development starting from the existing business. This would be in accordance with present, not uncommon practise, to investigate the complete supply-chain of the firm in its entire length from far away low-tier suppliers to final customer. This is likely to generate new business development ideas, apart from the main aim to achieve a lean optimised chain, using different tools such as BPR, different IT aids, new logistic systems etc.

2.2. Competence development

Another and different way of developing the region is by competence development of the local firms. An established method by public Swedish authorities like regional ALMI or nationally focused Nutek, is to offer firms some financial support for training in a new technique or to become certified according to an important standard, such as ISO 9000. Firms from many industries, with very varying background, and without any interfirm linkages except by chance, are brought together in a course or program.

The deficiencies connected to these programs are analysed in a recent governmental investigation (SOU, 1998:77). Similar findings are reported from other countries -- see for instance (Gibb, 1997) and (Scott et al, 1996) and (Storey, 1999). It is for instance found that the pedagogical methods are out of date, and the teachers are not familiar with real business life. It is advocated that firms learn best from other firms, and an important issue is to create a learning environment that capitalizes on this relationship. Moreover there is a lack of focus, due to development at random towards an imagined absent customer, and its thus unknown demands.

3. The customers perspective -- network sourcing

We will now to switch perspective and briefly look into how the customer organises his supply of parts and components. In many industries it is common that the firm that is last in the supply chain and closest to the final customer or end-user -- the prime -- is supplied by a number of system suppliers, which in turn are supplied from their suppliers etc. in different hierarchical levels, called tiers, that together conceptually form a pyramid shaped structure. The purchasing content is very high, at the prime level frequently 70-90%, and decreases with say 20% per level. Different industries possess of different number of tiers -- the automotive often 4 levels, electronics 3 and so on.

The overriding principle in his network sourcing system, following (Hines, 1995) terminology, is that each firm focuses its core-competence, and by assembling together the final product from a number of selected suppliers in a well considered process, the prime foresees to benefit from a strong market position.

The centre of gravity in the value -- and costmass -- has successively been moved towards the suppliers, and is now there in many industries. For the prime to become a world-class supplier to the final customer or user, it is imperative that the whole supply system is worldclass, and so its constituting members of suppliers. The design of the supply system, selection of suppliers, and cooperation with them, are thus very important issues to the prime. With the tendency to increasingly transfer product development down the supply chain to the suppliers, the importance of this supply-chain consideration is further enhanced.

Remarkably, it appears that the importance of the physical location of the suppliers in relation to the customers in the supply-chain, which we can call the spatial factor, has received little or now attention in textbook recommendations and research on supply-chain management.

At the same time, the empirical evidence shows that it is common that suppliers and customers in the supply chain are closely located. During recent years this has become even more pronounced due to requirements for JIT deliveries, and further accentuated by requirements for sequential deliveries to final assembly, as implemented at the final car assembly plants of Volvo in Gothenburg Sweden, and since long in Ghent in Belgium.

With increasing possibilities for communication created by modern IT, one would expect that the importance of the spatial factor would diminish, except in such circumstances of JIT and sequential deliveries. However, results from research in computer and information science point out in report after report the importance of face-to-face interaction between people. Of course IT does not aggravate the situation, but it does mistakenly lead to a dangerous belief of the "death of distance". An important explanation to the importance of close contacts between people is provided by the field of Organizational learning -- see for example (Nonaka, Takeuchi, 1995) and (Spender, 1996 a, b). From organizational learning we know that knowledge can be divided into two types, explicit and tacit, or so called silent knowledge. Tacit knowledge is attached to people, groups of people and firms, and is therefore difficult to transfer and diffuse. With increasing emphasis of spreading R&D along the supply-chain, and the increasing role of R&D as such in corporate success, the importance of proximity between actors in the supply chain comes even more into focus.

The conclusion is thus that from the prime's point of view the spatial factor is of larger importance than has been explicitly acknowledged. This creates an important stimulus to the development of a new regional development model in coming sections of the paper.

4. The primes network sourcing in a regional development perspective.

From the above last two sections we learnt that regional developers would have an interest to cooperate with primes, and the reverse. This is the combination we will explore in this section, in our pursuit of developing a new model that will benefit both parties alike.

As far as we are aware this combination has not been done before in the way proposed here. Porter in his diamond model for regional development, has in later refinements (Porter, 1998 a, b) and (Porter, Söelvell 1998) noted the importance of putting the MNC in a regional context. However this is done from the macroperspective of an economist, not in the microperspective of the corporate strategist trying to create a supply network and simultaneously contributing to regional development, which is our preoccupation in this research.

4.1. The basic model

Our basic proposal in building a model for corporate and regional development is intrinsically simple; each party should try to put himself into the others position, and capitalize from his initial knowledge position, in creating ideas for development, as follows:

- the traditional regional developer should look upon the individual firms in the region from a corporate supply-chain perspective. Which are the vertical connections, i.e. which are the customers and the suppliers, and where are these firms located -- close or not? Can we identify any embryos to more condensed networks of interrelated firms in the region? What is needed in the form of complementary firms, to achieve more selfsufficient partial systems? Are there firms in the supply chains that have competitors in the region? What are the potentials in combining these competing firms, so that the supply to the customer becomes more strengthened? What are world-class performance standards of firms in the region? What is needed in terms of improvements to reach such performance levels? In general we can characterize this complex of questions, as a way to identify linkages between existing local firms, structure these, modify and improve in relation to world-class standards.
- the corporate strategist, who is assumed to be well familiar with the above thinking, should put himself into the position of the regional developer, and ask questions as follows: What are the regional employment effects of present sourcing from the region? By what means can the supply network be reinforced? How can regional competence development efforts be focused? How can different supporting institutions like universities and institutes in the region become involved, and orient themselves to enhance the development of people and new products? What other infrastructural measures might provide support to the supply-network? By what means can firms in other regions that fit into the regional network be affected to move to the local region, or otherwise become more closely connected? What are the short- and long-term effects of outsourcing from the firms in the region?

The foundations of these questions is how a macro-economic and regional perspective can support the supply-network development.

We are also suggesting a few other measures to be taken in enhancing the development of the corporate supply-network and the region. These consist of the introduction of certain network development activities, as well as benchmarking against other existing local agglomerations.

4.2. Supporting worktool: The supplier-association network (SA).

One important method in achieving competence development in a group of firms is through the formation of so called supplier associations (SAs). An SA is a group of suppliers together with the joint customer. Normally the customer selects about the ten most important strategic and non-competing suppliers to form the group, and representatives of these suppliers meet regularly, following a proven workprocedure with different working groups focusing different individual competence areas. Normally the participating firms are able to work in 2-3 parallel working groups, each of them lasting a year or so. After a few years impressive improvements are normally reached in areas such as quality, delivery efficiency and lead times. There is no limit to the duration of the membership in the SA-umbrella organization -- it usually lasts indefinitely -- and allows a continuous "kaizen"-like effect. Through the linkage between the suppliers and the customer, in the embeddedness of current business, and the strong connection to real problems, an almost ideal learning situation according to latest knowledge is created. A strong focus is obtained, and the competence development is performed in line with the priorities decided by the current business, and both suppliers and the customer are involved. Sometimes representatives from many different tiers are participating in the association, further promoting the improvement of the value-chain at many tiers. According to (Halvarsson, 1998), the usually larger customer firm is contributing an outside-in perspective in the association, which is necessary for the sound development of the SA. The customer is a kind of navel-string of nourishment to the SA from the environment. Without this contact there is a risk the SA becomes too bureaucratic and stiff.

Competence development of firms by the use of the SA, is a good case of both vertical and horizontal development, since it involves both parties linked vertically to each other, and also those that are horizontally linked -- the suppliers.

SAs exist since about five years, numbering some 30 associations in England and some 3 in Sweden. This means that network activities of the SA-type are practised by some 500 SMEs, and experience in the work has been collected. Some of it has been documented -- see (Hines, 1995), (Izushi, Morgan, 1998) and (Aitken, Gullander, 1998).

Lately more complicated forms of groups of suppliers and customers are being tested for competence development. (Halvarsson, 1998) describes a case in Sweden, where 12 firms are involved, composed by 4 customers each with 2 of their respective strategic suppliers. Both vertical and horizontal development can take place. At the same time all the firms are part of a larger horizontally focused network of more than 100 firms all from the same region. In reference to our earlier outlined model for joint corporate and regional development, the SA method is very effective in promoting the development of linkages between regional firms. With time the parties in the association get to know each other very well, and it contributes to the development of trust. This might in turn form the basis for more strategic developments between the firms, and we would thus see a movement from competence development to business development in the supplynetwork. Such strategic developments can be both horizontal and vertical, with the existing business as a bonding factor.

4.3. Supporting worktool: Benchmarking other regional groupings.

We also believe there are large benefits to be obtained from the experiences gained from so called industrial districts, or clusters and similar type of firm agglomerations. An industrial district (ID) is according to (Porter, 1998) a "geographic concentration of interconnected companies and institutions in a particular field". The ID was identified already at the 19th century by (Marshall, 1920), and has in later years received renewed interest by a number of researchers such as (Piori, Sabel, 1984), (Pyke et al, 1990), (Pyke, 1992) and (Lazerson, 1999). According to the latest researcher the "prototype" ID is comprised of numerous small firms engaged in activities

related to a single industrial category and which are located in a community clearly identifiable in terms of geography, history and culture. Culture homogeneity produces an atmosphere of cooperative and trusting behavior in which economic action is regulated by a series of implicit and explicit rules governed by both social conventions and public and private organizations. According to Lazerson, no ID has ever emerged from a set of industrial policy initiatives promoted by either public or private organizations. The ID is the result of an invisible hand active inside the district.

Most of the research on IDs have been performed by economists, geographers, sociologists and political economists, and thus on a rather aggregated macroeconomic level. Very little is known about the linkages at the firm level. In one of the more microoriented industry studies of the shoe industry, (Rabelotti, 1998) -- describes how shoemanufacturing in a district is comprised by five stages of production, with strong specialization by some firms to intermediate stages, with the prime appearing in the last stage. We thus have a strong presence of cooperation between these firms in the intermediate stages of production. In relation to the final customer on the other hand, the firms are competitors, except in rare situations where they cooperate visavi a large customer by combining production volumes. The ID further houses shoemachine manufacturing firms, and different other organizations with administrative, technical and marketing orientation, forming a strong supporting infrastructure to the district firms.

From such combined cooperation and competition, exploiting economies of scale and scope in manufacturing and sales, the ID derives its strengths. The ID can also benefit of what Lazerson calls "economies of time", defined as the ability to design, manufacture and deliver customized products quickly.

IDs are vulnerable, as witnessed by the decline and almost disappearance of the Swiss clock industry during the competition against the electronic clocks. Another case mentioned by (Nilsson, 1998) concerns the armament industry in Manchester in England. In this case there was an external threat from new manufacturing techniques introduced by large integrated firms, that could not be coped with. According to Lazerson, the weakness of the ID has its roots in the cultural homogeneity and the closed nature of the business and social relationships. So what under some circumstances constitutes a strength, can in other circumstances constitute a weakness. We would propose that the ID is thus an interesting benchmarking counterpart for regional development under comparatively stable environmental conditions, but not under turbulence. This is for example the case in the shoe industry, where Rabelotti has identified the threat posed by changing distribution patterns.

The predominant opinion is that within the ID, the conditions for business are very favourable, which can be explained by the geographical proximity, cultural homogeneity between the firms, both vertically and horizontally. Although we still lack knowledge in how the firms cooperate and compete, we know that they interrelate in different interesting ways. This is the reason why the ID emerges as a interesting benchmarking phenomena in our opinion.

We are thus in a position to put together the basic constituents of the model. The base is composed by experiences from regional development pointing at the importance of creating development through business and competence development. Experiences demonstrate the strength of business development originating from the present position of existing products and customers. Competence development characterized by the appropriate learning environment with firms sharing experiences, is also important. Another base originates from corporate strategy, and how large end users design and nurture their supply networks.

Combining the two bases, and adding the worktools of the Supplier Association and the Industrial District perspective glues the constituents together to form a coherent model. In the next section we will now demonstrate the model.

5. A case of joint corporate supply network and regional development

In this final section we will illustrate the dynamic model developed above, by imagining a case from a typical city with surrounding firms, prevalent in many locations in Sweden. Albeit sketchy, the case provides a demonstration of the operational processes involved in implementing the model. We assume there is a MNC, called XMAX, present in the city, together with some 20 SMEs, of which 5 are suppliers to the MNC. SMEs belong to a number of industries, for instance mechanical workshops, wood manufacturing and plastics.

A possible utilization of the model, is to initiate a step by step procedure according to the steps outlined below, resulting in a structured approach to create a strong and robust strategy for the region:

1. XMAX's strategies are sharpened by deciding and refining the core competences. As a result one decides on the additional need for improvements. For activities outside these core competences, outsourcing is decided, and corresponding own activities are divested (personnel and equipment) from.
2. Regional authorities promote development of the divested activities. The personnel from XMAX is supported by more small business and entrepreneurial oriented people familiar with the activities, and also able to provide own funds, i.e. so called business angels. New customers apart from XMAX, which is supposed to remain a client, are identified. It would seem possible to multiply the volume of the outsourced activities.
3. All the existing buyer-supplier relationships of the firms in the region are mapped. Competence deficiencies are identified. The deficiencies are corrected by competence development, preferably in vertical networks by the use of the well proven SA worktool.
4. In possession of knowledge of XMAX's core competence and corresponding need for supply network, together with the information on the other firms buyer-supplier relationships, efforts are devoted to identify a competence area for the region as a whole. What kind of firms are missing, to complete the competence strengths? Try to attract these firms, probably more through a kind of headhunting approach, based on approaching identified strong firms from other regions, rather than through a more broadly oriented advertising campaign.
5. Investigate the possibilities to sharpen the longterm competence development of the ID by establishing research- and development oriented activities, such as for instance Centres from Universities, Industry research institutes, Laboratories etc.
6. Take advantage of inventor ideas from the region. Ideas related to activities performed in the region should in the first place be marketed to local firms. Support should be offered from business angels. For strong ideas without any connection to the region, help to spread the idea to actors outside the region should be offered.
7. Establish business networks for competence- and business development for firms without any vertical linkages. Look after the possibilities to fit the firms into existing networks in the region.
8. Train network consultants that can manage needed networks.
9. Document the development plan, and diffuse it among the firms of the region, and to different affected organizations such as Almi, Nutek, etc. Attract suitable firms to the region.

6. Conclusions

The proposal of the authors is based on Porters diamond model applied to the region, and improved by recent years of research about Industrial Districts, Suppliers associations and Organizational learning. The region is looked upon as a firm, and the joint work is marked by a holistic view with the local firms as coactors that realize the benefits of cooperation. The main contribution is to connect this thinking to the corporate strategy network supply, which until now has left the spatial factor unnoticed. The corporate thinking contributes with an understanding of the implications of worldclass standards and core competence. This results in strong synergy effects.

The result is a strengthened region, characterized by a ramified and deeply anchored root system, that is difficult to pull up by structural changes. On the contrary, the region that has achieved the improvements, might become the region that will benefit from such restructuring. We both protect the existing, and prepare the ground to achieve positive developments.

By the use of the dynamic model presented above, we see a possibility to avoid the surprise effect that seems to strike all parties -- workers and employees, regional authorities etc. alike -- when the restructuring of the firms in the region is announced. Implementation of the model creates a longterm base for the fruitful development of business in the region. Weaknesses in structure and competence can be identified far ahead of the arrival of potential restructuring measures, and actions be initiated to forestall the restructuring well in time.

This requires a lot of work. A first step is to diffuse the knowledge of this model and its thinking among regional planners and firms, and initiate cooperation in an open spirit. The planners must become actively engaged at the firm level, hereby affecting the development of the Industrial District. Industrial districts were never created through governance. Now it is needed.

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THE EFFECTS OF TECHNOLOGICAL INTENSITY AND FIRMS CHARACTERISTICS ON THE CONTRIBUTION OF INTANGIBLE RESOURCES TO BUSINESS SUCCESS

Grégory Denglos and Christian Marmuse

Abstract

Studies in the field of small business concerned with innovative activity of firms has focused on the important question of source of rents in the context of market imperfections. Such question has received competing explanations in terms of industry-effects and idiosyncratic resources-effects rested on empirical results as well as theoretic assumptions. In the interests of advancing the application of the resource-based view, this article presents a contingency framework of competitive advantage based on intangible resources. It addresses indirect effects of the industry structure on the relative contribution of intangible resources to business success. It indicates that industry membership explain a significant proportion of the relative contribution of intangible resources to business success in various ways but that industry concentration has no significant impact on overall resources valorization by firms. It demonstrate that overall resources valorization by firms vary significantly with firms characteristics such as size and employees know-how.

1. Principal Topics

Studies in the field of small business concerned with innovative activity of firms has focused on the important question of source of rents in the context of market imperfections. The determinants of success or failure, benefits above-normal returns and interfirm differences still remain opening interrogations despite contributions and recent insights. Such questions have received competing explanations in terms of industry-effects and idiosyncratic resources-effects rested on empirical results as well as theoretical assumptions.

In industrial organization, firms profitability depends on the nature of competition determined by structural characteristics of industry in which they compete and strategies followed whereas scarce, appropriable and specialized strategic assets prevail in the resourcebased view. Resource-based approach has emphasized both the importance of tangible and intangible specific assets in explaining firms profitability and the conditions of sustainable competitive advantage. Intangible resources may be categorised as assets or skills. Intangible assets range from the intellectual property rights of patents, trademarks, copyright and registered design, contracts, trade secrets, through data bases and the reputation of product or company whereas skills are subjective resources of know-how, networks, organizational culture (Hall, 1991 ; 1992 ; 1993).

Capability differentials based on competencies include functional differential or cultural differential and capability differentials based on assets result from positional or regulatory differential. The value of such assets can be leveraged not only by environmental context in which firms evolve but also by their various combinations. For example, property-based resources contribute to financial performance in predictable environments and knowledge-based contribute to financial performance in uncertain environments (Miller, Shamsie, 1996).

Table 1 : A framework of intangible resources and capability differentials
From R.Hall (1993, table 2, p. 611)

Capabilities					
	Functional	Cultural	Positional	Regulatory	
People dependent	Know-how of employees, suppliers, distributors				Skills
		Perception of quality Ability to learn, etc.			
			Reputation Networks		
People independent			Data bases	Contracts Licenses trade secrets (incl. some data bases) int. propy. rights	Assets

It follows that whether or not an asset can be considered as a resource depend as much on the industrial context as on the properties of the assets itself. Additional research might investigate these contingent effects to confirm the generality of Miller & Shamsie's (1996) conclusions and the usefulness of Hall's framework (1991, 1992, 1993) (see Table 1). Further research might investigate whether tailoring resources to industry uncertainty contributes to superior performance too.

2. Hypotheses

There are several studies that contribute to this research stream and collectively demonstrate that higher performance is created when firms use their capabilities differential to build sustainable competitive advantage in high (Majumdar, 1998 ; Deeds, Coombs, 1996), medium (Helfat, 1997; Sharma, Vredenburg, 1998), or low technology environments (Maijoor, Van Witteloostuijn, 1996). In the interests of advancing the application of the resource-based view, this article presents a contingency framework of competitive advantage based on intangible resources. It addresses indirect effects of the industry structure, using technological intensity measures, on the relative contribution of intangible resources to business success. Three hypotheses suggested by the literature above analysis are selected :

- *Hypothesis 1: Property-based resources are the less prevalent resources in conferring competitive advantage both in high, medium and low technology environments*

Hypothesis 1 strongly supports earlier empirical contributions. Property-based resources are more useful in stable environments, when the industrial context changes such resources may lose their advantages. Moreover, such resources may take the form of information that give other competitors opportunities to imitate some capacity to generate profits. In industries where technological intensity is lower, such resources may be lucrative comparatively to gains.

- *Hypothesis 2: Functional resources are more prevalent in conferring competitive advantage in high technology environments than in lower technology environments.*

Hypothesis 2 focuses on the linkage between intellectual capital, derived from tacit and explicit knowledge and knowing capability, and competitive advantage. Functional resources would be more positively related to competitive advantage in firms operating under high than those operating under lower technological environments because specific technical and creative skills are closely associated with exclusive know-how related to products and R&D intensity by constantly innovating and upgrading skills and competencies whereas administrative innovations related to the basic work activities of firms may prevail in lower technological contexts.

- *Hypothesis 3: Positional resources are more prevalent in conferring competitive advantage than cultural resources both in high, medium and low technology environments.*

Major determinants of business success include characteristics of the industry in which firms compete. Properties of industries contributing to firms performance often include concentration rates. However, the overall importance of such sets of variables is beyond dispute (Mehra, 1996 ; Powell, 1996). Therefore,

- *Hypothesis 4: Industry concentration has no significant impact on overall resources valorization by firms.*

Major determinants of business success include characteristics of firms too. This study is completed with firm sizes. Firm size, measured as the number of employees, is most often interpreted as source of activities diversification. Based on previous studies (e.g. Rumelt, 1991 ; Mehra, 1996), the following hypothesis is defined:

- *Hypothesis 5: Firm size has no significant impact on overall resources valorization by firms.*

At last, two independent variables are added as proxies of innovation activities and value of human capital. It addresses the question of whether resources employed by firms are different from or the same as other firms which develop different innovation and whether resources employed by firms are different from or the same as other firms which principally derive rents from employees know-how. Thus,

- *Hypothesis 6: Overall resources valorization by firms vary significantly with innovation nature*
- *Hypothesis 7: Overall resources valorization by firms vary significantly with importance of employees know-how.*

Table 2 report a summary of hypotheses.

Table 2: Summary of Hypotheses

Hypothesis 1	Property-based resources are the less prevalent resources in conferring competitive advantage both in high, medium and low technology environments
Hypothesis 2	Functional resources are more prevalent in conferring competitive advantage in high technology environments than in lower technology environments
Hypothesis 3	Positional resources are more prevalent in conferring competitive advantage than cultural resources both in high, medium and low technology environments
Hypothesis 4	Industry concentration has no significant impact on overall resources valorization by firms
Hypothesis 5	Firm size has no significant impact on overall resources valorization by firms
Hypothesis 6	Overall resources valorization by firms vary significantly with innovation nature
Hypothesis 7	Overall resources valorization by firms vary significantly with importance of employees know-how

3. Data and valorisation scores of intangible resources

The results presented in this paper are part of a research project carried out among entrepreneurial firms. This study employs official data from seventeen french industries edited by the S.E.S.S.I. (Service des Etudes Industrielles) during 1998. The rate of penetration of each intangible resource is calculated first in each industry. The competitive advantage, based on executive's perceptions derived from dichotomical scales, is the dependent variable selected for this research. Independent variables were divided into height groups associated with seventy-three items. Organizational characteristics effects, differential capabilities effects and industry effects are identified and represented in figure 1 (omitted).

Penetration rates (or valorization among industry) of intangible resources are defined as follows: (omitted) where $w_{i,j,k}$ are competencies i , included in category j , possess by firms k , $w_{i,j}$ is the total number competencies i included in category j and n is the number of firms in each industry.

4. Results Analysis

Descriptive analysis shows the results for each industry, including $D_{j,k}$, nonparametric test using a test proposed by Kruskal & Wallis (H) for the various effects, and the estimated significance level. The Kruskal-Wallis test is a nonparametric test comparing the ranks of variables in distinct samples. The Kruskal-Wallis test evaluates the hypothesis that the nature of industry context and the organizational characteristics have an influence on the intangible resources valorization scores.

The test (H) is calculated as follows (Equation 1): (omitted).

where W_i is the rank of variable i and n is the total number of observations. However, in practice, it could be defined differently (Equation 2, See appendix): (omitted).

Table 3 : Taxonomy and descriptive statistics

<i>Variables</i>	<i>Labels</i>	<i>Taxonomy</i>	<i>Maximum</i>	<i>Minimum</i>
1	Intellectual property defense	Regulatory capabilities	0.733	0.250
2	Valorization of innovation processes	Cultural capabilities	0.838	0.496
3	Development of human resources		0.673	0.328
4	Collective learning	Functional capabilities	0.769	0.397
5	Management of knowledge		0.693	0.440
6	Transfers of technology	Positional capabilities	0.743	0.174
7	Marketing actions on new products		0.731	0.221
8	Financial resources		0.665	0.252

Table 4 (a) to 4 (c) present results by industry context effects whereas Table 5(a) to 5(c) present results by firms characteristics effects. It indicates that industry membership explain a significant proportion of the relative contribution of intangible resources to business success in various ways.

Table 4 (a): Importance of intangible resources by technological intensity

<i>Variables</i>	<i>Technological intensity</i>			
	High technology >0.085	Medium high technology >0.026	Medium low technology >0.01	Low technology 0.01<
1	0.448	0.45	0.335	0.254
2	0.715	0.663	0.585	0.530
3	0.538	0.483	0.402	0.361
4	0.667	0.588	0.503	0.442
5	0.574	0.582	0.495	0.457
6	0.445	0.376	0.271	0.199

7	0.450	0.467	0.347	0.255
8	0.436	0.432	0.361	0.284
H (Kruskal-Wallis) = 9.473 d.f. = 3 P = 0.025				

The relative contribution to business success which the different intangible resources were assessed are shown in table 4(a). Although, differences among such clusters are significant, hypothesis 1 is not corroborate. The regulatory capability is not rated as the least important contributor to competitive advantage which it runs counter previous works.

The scores of variable 4 and variable 5 allow to confirm hypothesis 2 whereas the scores of variables 6, 7, 8 in each groups, compared to the scores of variables 2 and 3, do not allow to corroborate meanly hypothesis 3. It also acknowledges that functional resources can produce sustainable competitive advantage when the technological intensity is important but that positional resources are not necessarily more prevalent in conferring competitive advantage than cultural resources both in high, medium and low technology environments.

Table 4(b) shows that sales concentration has no significant impact on overall intangible resources valorization as expected. Others measures of concentration, such as exportations concentration and employees concentration, were used in the analysis and assume additional evidence that concentration account for a non significant effect ($p > 0.1$) of overall intangible resources valorization (respectively $H = 2.48$, d.f. = 2, $H < 4.605$; $H = 3.255$, d.f. = 2, $H < 4.605$). Hypothesis 4 is also deeply corroborate by empirical results.

Table 4 (b): Importance of intangible resources by concentration rates

Variables	<i>Concentration of industries</i>		
	Very High concentration ≥ 0.46	High concentration ≥ 0.30	Low concentration ≥ 0.13
1	0.419	0.345	0.265
2	0.681	0.602	0.548
3	0.481	0.421	0.374
4	0.609	0.500	0.461
5	0.568	0.490	0.462
6	0.373	0.289	0.223
7	0.413.	0.355	0.311
8	0.431	0.353	0.307
H (Kruskal-Wallis) = 4.265 d.f. = 2 n.s. (H<4.605)			

To further investigate the relationships between industry context and the resources valorization scores, the sample is divided into five groups. Industries were grouped on principal key success factors such as financial resources intensity, labor intensity, distributors specialization, economies of scales degree and R&D intensity.

Table 4 (c): Importance of intangible resources by key success factors

	<i>Variables</i>							
<i>Key success factors</i>	1	2	3	4	5	6	7	8
High intensity of financial resources	0.254	0.563	0.361	0.442	0.457	0.199	0.255	0.284
High intensity of labor	0.261	0.496	0.328	0.397	0.444	0.174	0.221	0.252
Specialization of distributors	0.416	0.647	0.460	0.597	0.551	0.338	0.441	0.434
Economies of scale	0.303	0.585	0.414	0.504	0.496	0.268	0.328	0.341
High intensity of R & D	0.489	0.693	0.503	0.627	0.594	0.435	0.505	0.466
H (Kruskal-Wallis) = 14.721 d.f. = 4 P = 0.001								

Results in table 4(c) emphasize the importance of such clusters in explaining differences among resources valorization scores with a value of H which is highly significant. This article is concerned with identifying the intangible sources of sustainable competitive advantage by firms characteristics too. For this purpose, three independent variables are used to described the resources valorization scores. This second part of work sets out to demonstrate that firms characteristics provide a means of identifying the relative contribution which the different intangible resources make to business success and degrees of classification.

Hypothesis 5 enounce that firm size has no significant impact on overall resources valorization but, as unexpected, firm size effects reveals that small firms develop often less intangible resources to built competitive advantage based on innovations (See Table 5(a)).

Hypothesis 6 enounce that overall resources valorization vary significantly with nature of innovation but this hypothesis is not support by Kruskal-Wallis non parametric test which figure in table 5 (b) ($p > 0.1$). Finally, hypothesis 7 which sustain that overall resources valorization vary significantly with employees know-how is corroborate by results contained in table 5 (c). This finding is in line with previous studies which place the highest priority on management of knowledge.

Table 5 (a): Importance of intangible resources by firms size

	<i>Variables</i>							
<i>Sizes</i>	1	2	3	4	5	6	7	8
20 à 49 employees	0.250	0.541	0.358	0.449	0.470	0.204	0.266	0.289
50 à 99 employees	0.345	0.594	0.430	0.512	0.504	0.282	0.359	0.388
100 à 199 employees	0.409	0.620	0.467	0.556	0.519	0.331	0.406	0.404
200 à 499 employees	0.499	0.710	0.524	0.662	0.580	0.440	0.486	0.451
500 à 999 employees	0.582	0.758	0.581	0.695	0.589	0.516	0.572	0.492
1000 à 1999 employees	0.626	0.793	0.620	0.733	0.632	0.605	0.636	0.533
Plus de 2000 employees	0.733	0.838	0.673	0.769	0.693	0.743	0.731	0.665
H (Kruskal-Wallis) = 34.151 d.f. = 6 P = 0.01								

Table 5 (b): Importance of intangible resources by innovations

	<i>Variables</i>							
<i>Nature of innovation</i>	1	2	3	4	5	6	7	8
By products	0.486	0.700	0.508	0.662	0.598	0.400	0.507	0.490
By process	0.455	0.710	0.511	0.664	0.595	0.390	0.472	0.485
By design	0.494	0.672	0.487	0.609	0.609	0.351	0.538	0.459
By marketing	0.449	0.690	0.507	0.634	0.605	0.349	0.513	0.440
By quality	0.391	0.698	0.494	0.600	0.569	0.359	0.400	0.425
H (Kruskal-Wallis) = 1.194 d.f. = 4 n.s. (H<7.779)								

Table 5 (c): Importance of intangible resources by levels of salary

	<i>Variables</i>							
<i>Levels of salaries</i>	1	2	3	4	5	6	7	8
High salaries	0.475	0.688	0.520	0.622	0.592	0.444	0.489	0.438
Medium salaries	0.317	0.590	0.411	0.507	0.496	0.267	0.347	0.350
Low salaries	0.288	0.541	0.367	0.471	0.471	0.216	0.274	0.307

H (Kruskal-Wallis)

d.f. = 2

P = 0.05

5. Conclusion

Empirical results emphasize that industry membership, related to key success factors, explain a significant proportion of the relative contribution of intangible resources to business success. However, industry concentration rates has no significant impact on overall resources valorization by firms. In counterpart, it argues that overall resources valorization by firms vary significantly with firms characteristics such as size and employees know-how. Given the inherent limits of this paper, more research is needed in connecting industry and resources effects. Nevertheless, it highlights how intangible resources drive competitive advantage in different contexts which can be an essential element of various generic strategies based on idiosyncratic resources.

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Appendix: Demonstration of Equation 2 from Equation 1 (omitted)

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QUALITY: DOES SIZE MATTER?

Alan Brown

Abstract

Quality has been the catchcry for business in the nineties, with much of this focussed on the ISO 9000 family of standards. Small and medium enterprises (SMEs) have usually borne the brunt of this as larger customers drive them. Broader notions of quality such as TQM and using the quality award models have also been promoted heavily in the business world. Most of these formal concepts of quality often overlook the fact that SMEs lack the resources required to adopt these. This paper investigates the notion that SMEs may tend to adopt less formal methods of promoting quality yet pursue it with a high degree of rigour.

Drawing on case study material from small enterprise quality initiatives, this paper looks at how the principles of quality management are applied in smaller enterprises and compares this with larger organisations. Findings suggest that the smaller enterprises enjoy some advantages over their larger counterparts when it comes to quality and in many respects, do adopt informal means of driving it. Of critical importance are the owner/managers involvement and training and development of employees.

1. Introduction

Whilst quality management in its various guises has been actively promoted for a number of years with a great deal having been published over the past two decades, there is still relatively little known about quality practices in smaller enterprises. This paper aims to provide some insight into this by focusing on how small organisations apply quality principles.

Whilst there can be debates about what constitutes a small enterprise, most definitions are based on number of employees with the Australian definition of small being less than 20 employees in the service industry and less than 100 in manufacturing. Other criteria to consider in defining small are ownership and sales turnover. Micro businesses (those with less than 5 employees) constitute a considerable proportion of the Australian small businesses, thus, any analysis of small business needs to be treated with caution since there is considerable diversity within the sector, for example, between a micro business operating from home and a manufacturing enterprise employing seventy people. The latter would require some formal structure to manage the process while the former would generally employ less formal processes.

2. Quality in SMEs -- previous research

Much of the existing literature dealing with quality in SMEs focus on issues relating to ISO 9000 probably due to the significant growth of interest in this throughout the business world in the 90's and the significant impact which this trend has had on small enterprises. To a lesser extent there has been some essentially exploratory work on TQM.

A number of papers report on surveys of the ISO 9000 experience of SMEs (Brown et al 1998, Raynor and Porter, 1991, McTeer and Dale, 1994) These typically show high costs, disappointment and issues relating to consultants and auditors, although some report beneficial outcomes. The experience of small UK firms with ISO 9000 has been reported by Rayner and Porter (1991) who surveyed small and medium sized firms who had been certified to BS 5750/ISO 9000. Their findings suggested that the attitude of the chief executive was a primary determinant of whether a company had a strong commitment to QA or not.

Studies have also focused on broader quality concepts such as TQM. Shea and Gobeli (1995) examined TQM in 10 small US organisations, specifically examining reasons for its adoption, tools and processes used, implementation processes and outcomes achieved. Moreno-Luzon (1993) examined the factors which were responsible for success with TQM in 44 small manufacturing firms in the Valencia region in Spain. They found that the firms experiencing greatest success with TQM placed more emphasis on innovation, in products, markets, processes and production equipment. Management were also more highly motivated. Van der Wiele and Brown (1998) examine the path from ISO 9000 to TQM in SMEs seeking to identify the factors which determine whether or not an organisation progresses.

North, Blackburn and Curran (1998) have reported on quality practices in small enterprises in the UK, drawing attention to the notion of formal and informal quality. Others such as Ghobadian and Gallear (1996) have looked at features of quality management and differences between large and small enterprises highlighting where small enterprises had advantages and disadvantages. Four UK case studies (manufacturing 2 small, 2 medium) focused on implementation strategies, impact of TQM and organisational change and implementation and operational difficulties. Ahire and Golhar (1996) compared quality management implementation and product quality in large and small firms in the US motor vehicle parts industry. Findings suggested few differences based on organisation size. Axland (1992) reported on the small organisations who have won Baldrige Prizes in the USA. Some of the benefits of being small reported include; change can come quicker due to fewer management layers, the ability to make decisions quicker, fewer staff to train and the ease of communication.

Brown (1993) has documented the experience of TQM in a small plastic moulding company. The company concerned had developed a range of initiatives adapted to its relatively small size (60 employees). Despite limited resources, the general manager had played an active role in promoting quality, including participating in team meetings which was an important factor contributing to the continued success of quality management particularly in terms of facilitating communication and demonstrating commitment.

Moreno-Luzon (1993) examined the factors which were responsible for success with TQM in 44 small manufacturing firms in the Valencia region in Spain. They found that the firms experiencing greatest success with TQM placed more emphasis on innovation, in products, markets, processes and production equipment. Management were also more highly motivated.

Axland (1992) reported on the small organisations who have won Baldrige Prizes in the USA. Some of the benefits of being small reported include; change can come quicker due to fewer management layers, the ability to make decisions quicker, fewer staff to train and the ease of communication, if the CEO wants quality it is easier to implement in a small organisation because the CEO is visible to employees on a daily basis so can emphasise the importance of quality.

The notion of establishing networks to assist small companies in their quality management pursuits has been reported in the literature. Axland (1992) mentions that in some regions of the USA, small businesses have formed a quality consortium to study quality together (eg. the Texas Quality Consortium in Dallas). Simons and Kerr (1993) also report on a network established in the state of New York to assist small manufacturers in implementing TQM and ISO 9000. The papers noted the pressure put on smaller suppliers by large customers. Moreno-Luzon (1993) has suggested that networks are a particularly effective method of assisting small companies to introduce TQM.

3. What is quality?

Quality has many meanings and is applied in business in a number of ways, including the adoption of international standards such as the ISO 9000 series, using national and regional quality award guidelines and principles as espoused by gurus and consultants. Whilst ISO 9000 is a relatively specified form of quality, quality award guidelines are less prescriptive and quality management principles even less so. What then does it really mean to say that an organisation is practising "quality"? The answer may be that it has received certification to an ISO standard, yet research (Brown and Van der Wiele, 1996a) suggests that this may produce only a minimalist approach to quality or, is no guarantee of a quality as a service or product output as far as the consumer is concerned. Quality may also mean adopting some elements of the TQM approach such as using continuous improvement teams, value added management or customer satisfaction surveys. The quality award frameworks are generally regarded as comprehensive frameworks for quality and incorporate processes which are part of the ISO 9000 series. However, these may appear to be rather cumbersome for the average small business manager to be bothered with. Yet there are also enterprises which consumers may regard as delivering quality without ever having formally adopted ISO 9000 or quality award frameworks. This leads us to the notion of informal quality, which North, Blackburn and Curran (1998) see as comprising simple or complex forms.

Quality Approaches

- Certification to ISO 9000 series
- Adoption of quality award/business excellence framework
- Adoption of quality principles
- Use of consultant models
- Use of selected quality concepts
- Informal quality

4. Quality practices in SMEs

In order to explore the meaning of quality in smaller enterprises, several organisations which were known to the researcher as "quality" enterprises were examined. The methodology comprised case studies using interviews with relevant persons (usually the manager) and examination of documents. Other secondary data and information was obtained from published case study material on Australian quality award winners in the small business category and recipients of grants under the Australian Best Practice scheme. The organisations included an employment agency, an architectural and drafting company, a publishing company, a retailer, a marketing company and several manufacturing firms. Employment levels in each organisation ranged from 13 to 80.

ISO 9000

The application of ISO 9000 has probably been the subject of more studies of quality in SMEs than any other topic. Most of this research has focused on the problems and benefits experienced by SMEs in the scramble to achieve certification during the nineties.

Research by Van der Wiele and Brown (1998) found that whilst many SMEs could be classified as adopting a minimalist approach to ISO 9000, simply to gain the certificate and little else, a small proportion had adopted a more enlightened approach (termed converts or committed) and others had also engaged in broader activities which might be termed TQM. The experience of the converts and committed, was that by involving employees and providing the appropriate training, they could in fact produce beneficial outcomes. The achievement of ISO 9000 certification had helped define quality which could be used to develop broader quality processes and systems. However, the predominant view of smaller enterprises was that they felt compelled to adopt it and generally took a minimalist approach.

Selected quality elements

A study of Best Practice in small enterprises (Brown and Brandler, 1993) who had been part of an Australian demonstration program found that these enterprises had often focused on one aspect of quality rather than adopting a broad approach. The companies surveyed saw Best Practice as including one or more of the following:

- Value Added Management
- Participative management structure
- Teamwork

- Customer satisfaction surveys

- Supplier surveys

- Benchmarking

- Developing performance indicators

- Developing management information systems

Informal Quality

Small enterprises often have in place reasonably comprehensive policies and practices, which are not necessarily promoted with a quality label, yet the underlying principles are very much quality management. Some practices adopted by SMEs in the pursuit of quality are discussed below.

Human resources

SMEs with a quality focus tend to place a strong emphasis on employee training and development. Specific practices include; systematic induction processes, analysis of employee training needs, job descriptions, and clearly defined selection criteria and performance measures. Selection of staff is also strongly based on the fit between the individual and the organisation's values. Core processes used by employees are generally well documented and part of the training process provided for new employees.

Staff selection and training play a major role in being able to deliver quality in smaller service focused organisations where customers needs vary considerably, requiring employees to be equipped in assessing customer needs, making decisions and delivering appropriate service.

Being small often allows employees to develop diversity in skills and abilities since they have an opportunity to undertake a variety of work roles which may not be available in larger enterprises. This can also assist in delivering quality service and provides a greater appreciation of entire organisational processes.

Those organisations which have gone down the ISO 9000 path report the need for improved personnel record keeping including better training records and having accurate details of employee qualifications on file. There is also usually increased attention given to job descriptions as a result of quality certification. Some organisations have taken steps to include quality assurance in all job descriptions and also some performance management systems mainly to reinforce the on-going importance of quality.

Leadership and strategy

A significant factor in managing quality in SMEs is what Van der Wiele and Brown (1988) refer to as "emotional quality", that is the drive and vision of the owner/manager. If they are committed to quality, there will be a commitment to involving and developing employees and focusing on process performance and continuous improvement. This continuous improvement is often managed through regular meetings between management and employees. The presence of such emotional quality also means that then it is highly likely that they will move beyond ISO 9000 and support broader quality activities such as TQM.

The involvement of managers in this process assists in gaining support and commitment throughout the organisation since decisions can be made on the spot and employees recognize that they have a voice which is heard directly by the manager/owner. Strategic planning usually involves employees and assists in setting goals and targets for each planning period based on a constant monitoring of performance indicators. This may be through regular meetings of employees and the manager(s).

This continuous contact with the manager/owner is also an important factor which acts to reinforce the corporate strategy of quality where cultural changes consistent with a quality philosophy are much easier to achieve since decision-making processes are generally simple with few chains of command. Being small also means employees generally have a greater awareness of the entire business which again may facilitate the push for a quality culture.

Customer relations

The importance of competent front line staff who are empowered to deal with customer requirements is particularly significant in small service organisations where customer requirements are less homogeneous than for the manufacturing sector. These front line staff are also in daily contact with customers and provide continuous customer feedback which can be monitored.

The constant monitoring of customer satisfaction may be through formal questionnaires or those employees and managers making regular contact with customers. Given that there are fewer levels of management, employees are usually in regular contact with customers, which offers a basis for monitoring their satisfaction. Regular meetings may be used to look at customer satisfaction.

Smallness may often create opportunities to develop diversity in skills and abilities of employees since they have an opportunity to undertake a variety of work roles which may not be available in larger enterprises. This may contribute to improved quality of service to customers by creating a much more widely skilled and knowledgeable person able to handle a range of issues, particularly in service environments. This is consistent with the findings of Ghobadian and Gallear (1996).

Processes and systems

Procedures and systems may be well documented without any formal certification to ISO 9000. Some enterprises have found the need for formal certification while others have not, and this is largely dependent on whether it is required for certain markets. Some use team processes to apply the quality tools while others have less regimented approaches to continuous improvement, for example, weekly meetings of all employees and the manager, particularly in smaller service businesses.

5. What's different about quality in SMEs?

The culture of a small enterprise is strongly influenced by the values and attitudes of the manager and if they are passionate about quality it leaves little scope for employees to avoid it. One advantage for the smaller enterprise is that management involvement and participation in quality is highly visible which assists in developing trust and commitment. Furthermore, there are generally fewer middle managers to provide barriers and the change process may be hastened by virtue of size. Thus, it is possible for the manager to exercise greater control over the change process in a smaller organisation, ie. if they want to pursue an idea, they can. The challenge, however, is to empower all employees with the same vision.

Employee participation does not present major logistical difficulties. As noted above, communication barriers are generally low in small companies and communication structures tend to be relatively informal. For example, one very small enterprise operates an employee suggestion scheme whereby employees put suggestions on a small piece of note paper and pin it to the company notice board. These suggestions then serve as the basis for discussions at the next meeting.

Communication between management and employees and with customers, is relatively straightforward, particularly in very small companies, where it is often immediate and continuous due to size. Very small companies operating in one location usually means that all employees and the manager are in regular physical contact. Feedback and ideas can be freely exchanged in this environment.

Jobs may be less task specialised which enables employees to develop a better appreciation of entire work processes and customer requirements, particularly in service type organisations.

Small organisations who had introduced TQM or ISO 9000 found difficulties in not having the resources for a full-time facilitator or coordinator. In many cases, this role had been assigned to a staff member on a part-time basis, making driving change and ensuring it is adopted, a more challenging task.

Dealing with the "we don't have time for this" syndrome is a particular problem in smaller organisations where staffing levels are typically leaner than larger ones. This may be a factor which makes informal approaches to quality more appealing.

Training is a central element of successful quality management and the resource constraint is more evident in smaller enterprises, firstly in terms of financial resources to employ outside specialists, and secondly, to allow staff time off for training activities. Despite such obstacles, some small enterprises manage to spend a great deal of time on training and development. The small employment agency provides its own training, partly because it has a well-developed adjunct division which provides training in processes throughout the industry. Because many of their employees are working individually in the field finding jobs and supporting people in those jobs, their competence and ability to work independently is paramount to providing a quality service. With very small manufacturing companies the problem of allowing time for staff training may inevitably mean lost production, at least in the short term. To help deal with this, some have conducted training on the company premises on a weekly basis for several hours at a time.

A particular challenge is the lack of spare capacity with which to plan and design the change process, ie. the business must continue to operate. As a result smaller companies tend to rely heavily on outside providers for training, advice and other consultancy services. Choosing the best consultants for the particular business can be a difficult task with the quality of consultants varying considerably and unfortunately, poor ones can create more problems than they solve.

Small companies, by the very fact that they are small, face the constant difficulty of implementing change against the backdrop of tight working capital levels. Schemes cannot be grandiose but instead must be worked into the daily routine of the business.

During the change process it is vital to retain as the primary focus the operation of the core business. It is tempting to become absorbed by internal processes and lose sight of the customer. Caution needs to be exercised in order that customers are not forgotten in the quest for internal improvement and efficiency.

6. What can we conclude about quality in SMEs?

Whilst considerable further research is required before any definite conclusions can be drawn, managing quality in smaller enterprises takes many forms and varies in the degree of formality involved and extent of application throughout the enterprise. This is probably not all that surprising since the small business sector is far from a homogeneous group. Variations in employment size, owner motivations, financial health, industry sector, markets and so forth are all likely to impact on quality. For example, quality mechanisms and processes in a manufacturing firm of 80 or so employees are likely to be substantially different from one with 15 employees or a service organisation. Furthermore, what meaning does quality have for a micro business with no employees?

One finding from work conducted so far, is that less formalised approaches to quality management, or quality without a label, are relatively common. Formal quality initiatives such as TQM are not prerequisites for a quality philosophy to pervade the organisation, which supports Powell's (1995) findings in which he concluded that TQM success was more about intangible factors like management commitment, open organisations and employee empowerment, and less upon such hard aspects like benchmarking, flexible manufacturing, process improvement, and improved measurement. The experience of most of the small enterprises examined here suggests they are successful, to a large degree, because of factors like managerial style, employee involvement and training and open and effective communication.

There is also support for North, Blackburn and Curran's (1998) notion of informal quality in smaller enterprises where there may be a tendency to apply quality principles to everyday activities without formally adopting ISO 9000, quality award frameworks or any other formal approach. Whilst some small organisations adopt formal aspects of quality such as ISO 9000 and use quality tools and teams, others may adopt a more implicit notion of quality based on the drive of the owner.

Two factors which stand out as contributing to quality in smaller enterprises are human resources particularly in service organisations, where there is considerable reliance on the expertise and judgement of individual employees to deliver quality and, secondly, the drive and passion for quality from the owner/manager.

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SUPPLIER RELATIONS IN COMMERCIAL AIRCRAFT INDUSTRY: THE CASE OF ALENIA IN SOUTHERN ITALY

Anna Giunta

Abstract

The aim of this paper is twofold: in the first place, to examine to what Alenia, a large firm situated in Italy's Mezzogiorno (southern Italy -- and the least developed area in the country) operating in the commercial aircraft industry has embraced the lean procurement model now prevalent in the sector; and, secondly, to assess the impact this type of organisation has on the local small and medium-size subcontracting firms.

1. Introduction

In the 1960s and 1970s, with the generous support of a scheme for fiscal and financial incentives, a number of large, state-owned and exogenous private firms played the role of undisputed protagonists in promoting the development of an industrial structure in the Mezzogiorno (South of Italy) i.e. the least developed area in the country. Subsequently, the propulsive force associated with that particular development model became progressively weaker: the 1980s saw a drastic streamlining of large units of production caused to a large extent by restructuring processes, aggravated by decreasing interest in intervention policy and crisis in state-owned company. In the meantime, the general consensus of Italian researchers and policy makers was increasingly mounting in favour of a growth process based on the development of small and medium sized local enterprises specialising in light industries. Since then the role performed by large and small enterprises in the Italian debate has been much like two players in a sort of zero-sum game, where success for the small firms means failure for the large ones and vice versa. As a consequence, the role large firms have to play in the Mezzogiorno has subsequently been underrated. Very few papers have dealt with the subject over the last fifteen years, and our knowledge of the situation has become decidedly patchy, while the stereotype image of the large firm working in the south hangs on. It is still seen as a predator, backward in organisational systems, devoid of any productive connections with the small firms in the area. However, the few studies that have been produced on the issue (Latella, 1996; Giunta, 1998) reveal a rather different picture.

While large firms are still receiving only scant attention in Italy, a number of economists in other countries point to the current organisation system adopted by large firms as a driving force for local economic development (Barquero et al., 1997; Gray et al., 1996; Harrison, 1994). It has been shown that when, for their own advantage, large firms, takes on responsibility for "care and cultivation" of the local environment, such behaviour will eventually favour the development of local small firms via subcontracting relations.

Alenia, the Italian state-owned aeronautics company, is a paradigmatic example: in the 1980s, the golden period of the aeronautics industry, it promoted the development of a local tissue of a small firms acting as a means of transmission for entrepreneurial, organisational and technological know-how. The end of the cold war in 1989 had severe repercussions on Alenia's performance, forcing Italy's leading company into a complex process of reorganisation, above all in terms of procurement, whose impact on local supplier firms is totally unexplored.

This paper thus intends: 1) to analyse the restructuring processes undertaken by Alenia; 2) to investigate the effects of these processes on subcontracting firms in the Mezzogiorno and, in particular, in Campania where the production of aerostructures for civil aviation is concentrated. Combined analysis of these two aspects offers a number of pointers for re-assessment of the role a large firm can play as a catalyst for development the less industrialised areas. Indeed, the fact that Alenia has adopted efficient systems of organization involving the collaboration of local firms raises serious doubts about the stereotype of the large firm as predator devoid of roots in or connections with the surrounding productive structures.

The following sections of this paper treat the issue thus. In the second section we shall be reviewing the empirical research and theoretical studies carried out on the forms procurement can take in the aeronautic industry, highlighting the scarcity of such material. What is, nevertheless, emerging is a lean procurement mode showing many points in common with that in the automobile industry. In the third and fourth section we trace out a profile of Alenia and the role it played in the Mezzogiorno during the '70s and '80s. The fifth section goes on to analyse the procurement mode now obtaining at Alenia with the aim of assessing how close it comes to the prevalent organisational criteria. Section six brings the focus to bear on the impact of procurement on small and medium-size enterprises at work in the Mezzogiorno, while section 7 sets out our conclusions.

Our analysis is based on information from: a) various interviews with Alenia's procurement division managers; b) a survey of twenty subcontracting firms, located in Campania, which survived the selection process.

2. Current procurement mode in the commercial aircraft industry

The commercial aircraft industry shows marked division of labour between firms extending over the international scale. With the high costs and serious risks involved in research and development and engineering, the complexity of the productive cycle and the application of extremely diverse technologies (aerodynamics, materials and structures, equipment and propulsors) a number of enterprises must be involved to play their various parts.

Notwithstanding, organizational mode and in particular subcontracting relationship among aircraft firms is a truly under researched area. One reason for this might be the managers understandable concern about disclosing strategic information.

Yet, on the evidence of the few available studies, there seems to be growing awareness that the large aircraft firms are moving toward a lean organizational mode.¹ The latter, first adopted by Japanese firms in the automobile industry, is now widespread among firms worldwide as part of a more efficient economic strategy (Milgrom, Roberts, 1995). Some key features of the Japanese procurement system are long term commitments with few and selected suppliers, price premium, small lots, absence of inspections, risk sharing mechanism, single sourcing, system supply strategy (Aoki, 1984 and 1990; Asanuma, 1992; Sako, 1992; Okamuro, 1995). As underlined by researchers, the Japanese procurement arrangement represents a unified system, namely all the above mentioned features constitute one whole set of complementary characteristics (Taylor, Wiggins, 1997).

The aim of this section is to provide a survey of the few recent studies with the aim of sizing up the prevalence of this lean organizational mode is prevailing in commercial aircraft industry (Bozdogan, 1998; Lefebvre and Lefebvre, 1998; Boyer, 1997; Giunta, 1997; Beckouche, 1996; Gray et al., 1996; Kechidi, 1996; Paliwoda, Bonaccorsi, 1994; Todd, Simpson, 1986). All the studies listed are empirical in approach.

On the basis of the empirical evidence gathered we cannot go as far as saying that the unified system of Japanese procurement style has been adopted in its entirety. However, researchers underline that quite a few features of that system are becoming popular in the commercial aircraft industry, as a result of an intensive restructuring process undertaken by major aircraft firms at the beginning of the 1990's. What follows is a concise description of the stylized facts of new procurement mode in aircraft industry.

Vertical Integration. Even though existing empirical studies do not rely upon commonly used indicators, such as added value on turnover (Adelman, 1955), it seems that, as in the automobile industry, the production process in aircraft industry is now characterized by a decreasing degree of vertical integration. Three major forces are at work in the process: 1) the various technologies, such as material, electronics, and avionics, embodied in the aircraft construction which call for an extensive participation by several specialized firms; 2) increased outsourcing is also due to lower cost and strategic realignment of production (Bozdogan, 1998); 3) offset agreements. Typically foreign governments -- in the developing countries in particular -- require the participation of their aircraft industry as a prerequisite for airplane's orders by the national carrier. It follows that offset agreements are usually part of an industrial policy aimed to develop a national aeronautics industry.

Supply base. In aircraft industry the adoption of industry best practices invariably goes with the reduction in the supplier list. The subcontracting chain is organised according to a pyramid structure, the top of which is occupied by the leader firm. In the commercial aircrafts industry these are Boeing and Airbus Industrie. On the "second level", one finds the preferred suppliers i.e. those firms that maintain privileged relationships with the leader firm and which share the industrial and financial risk of the project. Below come those suppliers that do not have direct links with the leader firm, and mainly work as a subcontractors for the second level firms (Kechidi, 1996).

The nature of the relationship and selection criteria. Long-term business agreement and subjective selection criteria prevail in the aircraft industry. According to Paliwoda and Bonaccorsi (1994), the formal vendor rating scheme is replaced by subjective judgements of people in the customer company. Subjective judgements are rooted in a long-term relationship, as it is shown by Gray et al. (1996) drawing on evidence from Boeing in Seattle and by Kechidi (1996) with reference to French Aerospatiale.

Supply policy. The establishment of preferred suppliers is also dictated by current organisational needs, which require the adoption of the "system supply strategy" as opposed to traditional commodity supplying policy (Basile and Giunta, 1993; Paliwoda and Bonaccorsi, 1994). In fact, aircraft companies are delegating part of the integration task to component suppliers through the purchase of complete systems. In comparison with the traditional supplier policy, the system supply guarantees product liability and reduces the costs of identifying the responsible party should the system prove defective after final assembly of the single components. The centralisation of liability in the hands of the preferred supplier, now providing a fully assembled system, is actually one of the ways of reducing these costs. Moreover, since system supply raises inspection costs, it constitutes one further reason for shifting toward new procurement strategy.ⁱⁱ

Sourcing supply policy. Multiple sourcing is a specific supply policy (otherwise called overlapping supply policy) adopted when buyer firm make two or more subcontractors compete in order to obtain equilibrium prices near minimum long term production costs. Therefore such a policy keeps market mechanism within the supply chain and as such acts as a complementary feature of, the American automobile procurement system. By contrast, single sourcing characterises the Japanese system. Such a policy is shown to be more efficient in an "environment where quality premium address the moral hazard problem" (Taylor, Wiggins, 1997, p. 612). As quality assurance is a must in the aircraft industry, it is plausible to infer the superiority of single sourcing policy. Even though investments are specific, in aircraft industry mutual trust appears to overcome bilateral monopoly problems, as envisaged in the

transaction cost literature (Williamson, 1985). Empirical evidence on the single sourcing procurement in aircraft industry comes from Paliwoda and Bonaccorsi (1994).

Just in Time delivery. The system supply strategy goes along with the adoption of just in time delivery system, which was previously introduced in the automobile industry and is now becoming common practice in the aeronautical industry since airframe manufacturers are unwilling to plan all stocks in house.

Geographical proximity. Very few studies raise the issue of geographical contiguity. According to Beckouche (1996), the French aircraft industry is characterized by the proximity of supplier firms: the high specificity of subcontracting firms coupled with production complexity require frequent exchange between the prime contractor- Aerospatiale- and supplier firms. Others (Bozdogan, 1998; Lefebvre, Lefebvre, 1998, Gray et al., 1996) argue that offset agreements might pit the viability of a local aircraft supplier base against the need of primes to exploit both foreign markets, especially in the Asian countries and international industries' capabilities.

3. Alenia: a firm profile

Commercial aircraft industry has recently become a two-player game, in which Boeing-McDonnell Douglas (from now on Boeing) maintains a sixty percent market share and Airbus Industrie the remaining forty percent.ⁱⁱⁱ Boeing and Airbus develop the aircraft programme and organise the collaboration network at a global level with "second level firms". The latter, leader firms in their own countries, are involved in the production of the aircraft through different collaborative methods that, indeed, go from international subcontracting to partnership. In their turn, these second level firms organise local supply chain, mainly within their own country. It therefore follows that position reached in the international division of labour by second-level firms, like the Italian Alenia, has considerable effects on local development, through the involvement of local subcontracting firms in the supply chain.

Alenia is the leading state-owned company in Italian aerospace industry. It was formed in December 1990 from the fusion of aircraft manufacturer Aeritalia with high technology electronics specialist Selenia.

Alenia competes in the aerostructure segment where, following upon the entry of a number of Southeast Asian countries and the reconversion of some military products into commercial products, the number of participants has become considerable.

In the 1970s, by establishing subcontracting relationships with both McDonnell Douglas and Boeing, Alenia laid down the foundation for its placing in the international division of labor. A significant upgrading of its role was reached in 1980 with the co-operation agreement with the French Aerospatiale for the joint production of the ATR42 commuter transport aircraft: this was the first time Alenia had entered into an international agreement as partner.

Table 1 shows Alenia's current relationships with prime manufacturers. In spite of the long standing relationship with Boeing, Alenia still holds only a risk and revenue partnership, even though it has been granted the privileged status of "sole sourcer" for specific items.

Table 1 Alenia's Commercial Aircraft Products, Collaboration Agreement and Workshare in 1997

<i>Company</i>	<i>Products</i>	<i>Collaboration Agreement</i>	<i>Workshare</i>
Boeing Douglas	767 wide body jet	Risk sharing and single source supplier	Flaps, Slats, Ailerons, Spoilers, Elevators, Rudder, Vertical fin, Wing Tips, Radome
	777 wide body jet	Single source supplier	Outboard Flap, Radome
	717/200 (ex MD95) 120 seats	Risk sharing and single source supplier	Forward, Center and After Fuselage Barrel
	MD80/90	Single source supplier	Fuselage Panels, Aileron, Rudder
	MD11	Single source supplier and risk sharing for the new parts	All fuselage panels, Vertical Stabilizer, Rudder, Winglets, Nose, After Fuselage Section
Airbus Industrie	A300/310 wide body	Subcontractor	Tail cone
	A321	Subcontractor	Fuselage section
Aerospatale	ATR42 ATR72	Partner (50%)	Fully equipped fuselage, Vertical fin, Rudder, Horizontal empennages and related systems

Source: Alenia, 1998 as compiled by Anna Giunta, University of Calabria.

Alenia also operates as a subcontractor for aircraft produced by the Airbus Industrie, while, as we have seen, participates in a joint venture with the French Aerospatale in the ATR programme of commuter aircraft production.

4. Alenia's role in Southern Italy

As in other countries, aeronautical production is highly concentrated. There are two regional poles: in Piedmont, in Turin (in the North of Italy) and in Campania, in Pomigliano d'Arco, (in the South). Division of labour between the plants allocated the aircraft integration and tests to the North and the construction of structures for transport aircraft to the South.

The current productive structure is the outcome of a twenty year intervention policy in which the country's need of a competitive aeronautical industry has been associated with the objective of promoting the industrial development of the south, locations of plants in the south being favoured with financial and fiscal incentives.^{iv} In the early years an expansion of the productive base in the south was attained. A growth trend in profits characterised the whole of the 1980s, which could be defined as the decade of consolidation for the Italian company. The rise in commercial sales contributed to the positive results of the balance: it is enough to say that in 1971 it represented 12% of the total; whereas in 1988 it accounts for 42% of total turnover. Likewise an absolute and relative increase in the size of the workforce in the area of commercial aeronautics, especially in the Southern plants was recorded.

The growth in former Aeritalia's activity yielded immediate spin-off for local development. The whole experience stands as one of the successes of the poles development policy, adopted by the Italian government between the early 1960s and the mid-1970s. The development of the local productive network was the result of the "non-isolationist" behaviour of former Aeritalia, which acted as a transfer centre for entrepreneurial, technological and organisational skills. Indeed, by the 1980s the use of local firms to carry through stages of the manufacturing process become systematic, thus favouring spin-off processes and enlarging the productive base through the creation of a network of local firms. Small and medium sized subcontracting did not enjoy an autonomous position on the international market; acting rather as "indirect exporters", in that they supplied forward users who in turn served the international market.

However, in contrast with the normal practice in more evolved industrial contexts, these small and medium sized supplier firms operated in a monopsonistic system; thus saturating their productive capacity with the orders the leader firm, i. e. former Aeritalia.

The particularly positive results both in corporate terms and in terms of multiplicative local effects met with a serious and prolonged standstill on the "outbreak of peace" in 1989, aggravated by the unfavourable conjuncture of the global economy marking the early 1990s. It was in these years that a dramatic process of restructuring in the aeronautical industry got under way. The aim was to cope with the effects of a crisis in which changes of a structural nature -- the process of political detente between East and West -- combined with problems of an economic nature -- the slump in demand for air transport.

5. The restructuring process: a new procurement system for Alenia

In the early 1990s the need to face up to the crisis drove Alenia to work out a complex restructuring plan, currently near to the completion. The plan involved changes in the internal organisational structure, rationalisation of operations, reduction in the workforce and finally the adoption of a new procurement system, also called "strategic sourcing". As other researchers have pointed out (Paliwoda, Bonaccorsi, 1994), this is one of the areas in which it is extremely difficult to obtain much significant information. Our data originate both from a survey carried out by Alenia in 1995 among twenty subcontractors firms and from several interviews with managers of the procurement department we carried out in 1995, '97 and '98.

In this section we again take into consideration the main features of the procurement system discussed above (section two) in order to verify -- on the evidence of the data we have access to- how closely Alenia cleaves to the prevailing procurement mode. As ascertained by other scholars (Paliwoda, Bonaccorsi, 1994; Kechidi, 1996), our information demonstrates that procurement reorganisation proceeded slowly and with difficulty, since 1992 it has been centralised on the purchase unit which supplies both southern and northern plants.

Vertical Integration. We were not provided data regarding the degree of vertical integration of Alenia's plants in selected years. However, our interviewees observe that a decreasing degree of vertical integration has been registered in recent years. The main reasons for externalization were declared to be: a) economic. Some activities carried out externally present lower costs because they do not include overhead costs; b) financial. Manufacturing costs "weigh down" invested capital; c) operative flexibility. Within macro cycles there is periodical fluctuation in demand, the financial setbacks being off-loaded externally; d) of a contractual nature. Some work-sharing is an integral part of the agreement. In this case subcontracting does not generally regard local firms, but those located abroad.

Supply base. An acquired datum is the screening of the subcontractor list and the outlining of a pyramid-style organisational structure, according to the Japanese model, we have previously mentioned in section 2. Supply base reduction went ahead in a piecemeal fashion, to be fully accomplished only in 1998. A major step was taken in 1994: twenty subcontractors firms survived the selection, accounting for a total of 1420 employees. Subcontracting firms were thus subdivided into two groups: "major" and "minor".^v There were four major firms, all with owners from the Centre-North, with plants in both Piedmont (north) and in Campania (south). The sixteen minor firms include eleven Southern firms and five firms located in the centre-north of Italy. The selection process thus rewarded firms with owners from outside Campania, promoting them to the status of major.

Nature of the relationship and selection criteria. As regards the nature of the relationship between preferred suppliers and Alenia, we were given very little information, and nothing can be inferred from the Alenia survey. Both major and minor firms enjoy a twenty-year long relationship with Alenia. Technical assistance is guaranteed by the leading firms with frequent visits to the plants of preferred suppliers.

As regards the type of contract, during the 80's Alenia operated in a monopsonistic environment, and the competitions for subcontracting contracts was regulated thus: Alenia established a must price, a price that could not be exceeded, on the basis of which a competition for the lowest price was launched. The fixed price contract, i.e. all the risk of cost fluctuation being taken by subcontractors, was then hegemonic, as one would have expected given the conditions of monopsony. Unfortunately, nothing can be said about current contracts. We might reasonably assume that change in the environment -- the shift from a monopsony to bilateral monopoly -- coupled with long term relationship and establishment of preferred suppliers would call for a cost plus contracts, i.e. the risk being absorbed by Alenia. In this light subcontracting relations would perform as an insurance mechanism, as explained by Aoki (1984) and tested by Okamuro (1995) in the automobile industry.

We were also given very little information regarding the selection criteria. Some of them can however be inferred from the structural variables characterising preferred subcontracting firms.

First of all, the subdivision between major and minor firms clearly signals that a hierarchy system is at work, in accordance with the empirical findings of other researchers (Beckouche, 1996). There is more than one layer in such a pyramidal structure, as can be seen by considering the incidence of purchases over turnover for each type of the selected firm. The percentage averages around 39% for major firms, 32% in centre-north minor firms and finally is 31% for southern minor firms. What the data show is that the preferred suppliers -- both major and minor -- are in turn externalising phases of production to other firms, which do not have direct relationship with the firm at the top of the pyramid, namely Alenia. Such an indicator can also be interpreted, and it will subsequently be used in section 6, as a very crude proxy for managerial capacity, meaning the ability of the preferred supplier to organize the work of lower tier suppliers. In this way there exists a fragmentation of the production process with centralization and liability for the final product, ordered by the top firm.

Secondly, geographical proximity is relevant since 75% of the preferred suppliers are located in the south. Thirdly, as figure 1 (omitted) shows, the major firms evidently have a wider command of technology (such as sheet metals, machining, assembly, bonding, tools and composites), while the minor firms are predominantly mono-technological, as they are specialised in machining, although minor southern firms show a greater propensity toward multi-technology.

Supply policy. From the data we can thus infer that since technological capacity played a crucial role in the selection process, Alenia has adopted the supply system policy. As previously mentioned in section 2, aircraft companies are delegating part of the assembly task to suppliers through the purchase of complete systems. The ability to adhere to the supply system, or in other words to carry into effect the assembly of different components inside one's own plant, is to a greater extent a function of technological capacity.

Sourcing supply policy. At the time of Alenia's survey (in 1995) multiple sourcing was still prevailing. Rather than the outcome of a deliberate policy favouring competitive bidding system, it seemed to be a legacy from the past growth period and, as interviewees pointed out, doomed to be replaced in a near future. It has been observed that multiple sourcing is retained only when an offset agreement is stipulated: in this case the other supplier is obviously located abroad.

Just-in-time delivery. No information was forthcoming on the just in time system. While it does not seem to be a major concern for Alenia's procurement managers, the preference for geographical contiguity of subcontracting firms suggests that just-in-time can be easily adopted in the near future.

Customer portfolio. As we saw in section 2, a diversified customer portfolio does not seem to be a characterizing feature of the new procurement trend in the aircraft industry. Yet it does constitute a specific requirement Alenia forwards to preferred suppliers, in order to reduce their dependence; a point that emerges explicitly from the interviews and from Alenia survey as well.

Table 2 shows that all the firms maintain four customers, each accounting for substantial levels of sales. The capacity to diversify the customers portfolio and thus to reduce the risk connected with variation in demand appears high in the twenty firms, and greater than expected, since the technical possibilities of production diversification in the aeronautics sector are somewhat limited.^{vi} Thus, the recession acted as a discipline mechanism for those who survived, subcontracting firms being forced to look for alternative outlets releasing them from the monopsonistic system in which they operated in throughout the 1980s.

Table 2 Percentage of Turnover in 1994 according to Type of Supplier Firm and Customer Importance

	Major Firms	Minor southern	Centre-North Minor
First Customer	45.3	44.5	46.4
Second Customer	21.5	20.3	18
Third Customer	14.5	14	11.9
Other Customers	18.7	21.2	23.7
Total	100	100	100
Source: Alenia, 1995 as compiled by Anna Giunta, University of Calabria			

As table 3 suggests, we may conclude that most of the features of the new style of procurement obtaining in the sector were adopted by Alenia subsequent to an intensive process of organisational restructuring.

Table 3: Procurement Features both in the Aircraft Industry and in Alenia

Procurement's Features	Aircraft Industry	Alenia
<i>Vertical Integration</i>	Decreasing	Decreasing
<i>Supply Base</i>	Reduced	Reduced
<i>Nature of the Relationship and Selection Criteria</i>	Long-term relationship and subjective criteria	Long-term relationship Technology is relevant, as well as managerial ability.
<i>Supply Policy</i>	System Supply Policy	System Supply Policy
<i>Single Sourcing</i>	In use	About to be implemented
<i>JIT</i>	In use	No evidence
<i>Geographical Proximity</i>	Contrasting evidence	Relevant
<i>Customers Portfolio</i>	No evidence	Relevant

6. The new procurement trend: the impact on local suppliers

In this section we shall be considering the impacts this mode of organisation has on the local subcontracting firms. A number of points are worth underlining here, beginning with the resulting closures of several firms. The fundamental change in supplier base has led to the closure of many southern subcontracting firms, which, as we saw in section 4, were established during the 80's, when a marked increase in demand for commercial aircraft came about. This increase meant that Alenia systematically turned to the market, with consequent spill-off effects. Nevertheless, as the crisis broke out, most of these firms were subsequently found to be marginal, unable to adapt to the stringent conditions imposed by the new procurement trend, incapable of finding alternative markets outlets and therefore forced out of the market. Undoubtedly, both the recession and the new trend in procurement have acted as a discipline mechanism.

The second point to consider here is how certain firms managed to survive. Eleven subcontracting firms in the south actually did so, although positioned at a lower level of the subcontracting chain. In comparison with the minor northern firms, the minor southern firms appear on average to have greater technological versatility and higher managerial expertise while showing an equal capacity for customer portfolio diversification. This should protect them from any possible future crowding out processes by their northern counterpart.

This expectation is confirmed by our econometric analysis. We run a regression using the data from Alenia 1995 survey of twenty-six firms to investigate which are the explanatory variables of managerial expertise and the degree of comparative advantage shown by minor southern firms. We estimated the following regression equation:

$$PGS = a_0 + a_1LOC + a_2S94 + a_3DE + a_4FI$$

Here, the dependent variable PGS is the purchase of goods and services by subcontracting firms in 1994. As mentioned above (section 5), we use it as a very crude indicator of managerial ability, i.e. reference being to the management of the lower tier suppliers. LOC is a dummy variable for location, taking 1 if subcontracting firm is located in the centre-north and 0 otherwise. S94 is turnover in 1994. WCE are is the proportion of white-collar employees out of the total, indicating the presence in the firms of function other than mere manufacturing. Finally, FI is the proportion of total sales accounted for by to the first customer, i.e. Alenia, to whole sales.

Table 4 shows the estimation results of the regression equations. In our preferred equation (number 2), the explanatory variables show the expected signs and are statistically significant at 5% level. The southern firms evidently have a comparative advantage over their Centre-Northern counterpart; the sign of location variable being in fact negative. This result gives further support to the conclusion of our descriptive analysis. As expected, all the other variables are positively correlated with managerial capacity of subcontracting firms. More specifically, the positive and significant coefficient of sales in 1994 (S94) signals that a sustained level of sales improves managerial ability. Moreover, the sign of WCE indicates that the higher the number of white-collar employees, the higher is the managerial ability. It might also suggests that an externalisation process is under way, and that higher value added function are held inside the firms. Finally, the sign and the coefficient of FI (percentage of sales to the Alenia) suggests that the greater the managerial ability of the subcontracting, the larger is their proportion of sales to Alenia.

Table 4 Estimation Results on Purchase of Goods and Services of Alenia's Supplier Firms in 1994 (t-statistics in parentheses)

	Dependent Variable	<i>Independent Variables</i>							
		C	LOC	S94	WCE	FI	BE	BHE	R ²
1	PGS	-0.028 (-0.027)	-0.08602 (-1.434)	0.0000082 (2.375)		0.46317 (2.107)	0.77934 (2.034)		0.25
2	PGS	0.00347 (-0.03)	-0.1144 (-2.177)	0.0000085 (2.813)	1.0472 (1.933)	0.50272 (2.446)			0.26
3	PGS	0.0519 (0.379)	-0.08944 (-1.260)	0.0000078 (2.200)		0.3989 (1.793)		0.15778 (0.703)	0.17

Legend:
 PGS= Purchase of goods and services by subcontracting firms in 1994;
 C=Constant;
 LOC=Dummy variable for location (1=Centre-North--0=South);
 S94=Turnover in 1994;
 WCE=White-collar employees/total employees;
 FI=Proportion of sales to the first customer;
 BE=Employees with a bachelor degree/total employees;
 BHE=Employees with a bachelor degree or a high school diploma/total employees.

Thirdly, the hierarchy may work as a structure for the transmission of know-how. As we have seen, the current procurement trend has led to a more markedly tiered supply structure. The selection process has rewarded firms with owners from outside the region of Campania, promoting them to the status of major. This "pulling effects" of suppliers should not be underestimated. Apart from the obvious multiplier effect of increasing local employment, one other aspect needs to be stressed. Moving to the South, these entrepreneurs act as a coordination structure for firms placed at a lower level of supply chain, favouring top-down transmission of entrepreneurial know-how, an asset in chronic short supply in southern Italy, as well as in other less favoured regions.

Furthermore, the established hierarchy among supplier firms is not a static equilibrium, since it offers each firms chances to move up to the higher levels of the supply chain. A process of upgrading is set in action, the outcome of which will depend on the ability of local firms to adopt the more highly developed organisational and productive typologies that are currently shaping local markets as well.

Finally, there are some observations to be made about medium term success. And here we need to go back to the demand side, because both the economic future of the region and the further development of Italian aircraft industry are highly dependent on the role of Alenia in the international division of labour. In fact, as we have shown in section 4, there is an obvious positive correlation between the workshare Alenia gains on the international market and local multiplier effects. Good positioning in the commercial aircraft industry is reached with a step-by-step process, which usually starts from international subcontracting passing through a risk and revenue sharing partnership to full partnership. Now that commercial aircraft industry has become a two-player game, what role can Alenia play in co-operating with Boeing and/or Airbus Industrie?

It is very difficult to foresee the most likely outcome, given the current scenario, aggravated by the Asian recession. Two seems to be the main issues, closely interlinked.

Firstly, at a distance of nearly thirty years from its establishment it would be a decidedly positive development if the Italian firm moves in the direction of partnership-based solutions. This would involve upgrading of Alenia's relative position, shifting to relations characterized by high co-ordination and low dominance.

Secondly, which one of the two players is more likely to be joined? On the one hand, the natural outcome of a long-standing relationship with Boeing would be the attainment of partnership, even though with an initial minority share. Such a partnership would guarantee a fixed participating share for Alenia in Boeing's programs, thus protecting it from future competition of Asian firms, particularly from Japan. A contractual agreement of the kind was tried in the recent past (in 1995, with former McDonnell Douglas) with no success. In fact, the failure has "crystallised" Alenia's position inside a risk and revenue partnership, even if, as we have seen in table 1, it has been granted a considerable workshare and the privileged status of "sole sourcer" for specific items.

On the other hand, recent talks of a unified European aerospace and defense group seems to be pointing forcefully to a European solution to the matter. In fact, the so-called "E Company" or European company, is said to be open to having other European companies, including Alenia join in the restructuring. Yet, since the establishment of Airbus Industrie the role of Alenia in Airbus Industrie has been marginal and confined to mere subcontracting production. Moreover, the formation of the "E company", being a gradual process, based on separate link-ups between operating companies, and raising the issue of a privatisation of some companies, seems to have a long way to go before it becomes reality.

7. Conclusions

The main aim of this paper was twofold: 1) to investigate to what extent the efficient organizational mode prevailing in aircraft the industry has been adopted by a leading Italian firm; 2) to analyse the likely impact of new procurement trend on the local supply chain.

With regard to the first point, we began by arguing that there is a serious deficit of research. In the last fifteen years very few articles have been written; and even less empirical research going on. With its virtual disappearance from the research agenda, the outcome of restructuring process, and in particular, the current organizational mode of large firms located in southern Italy are largely unknown.

Nevertheless, existing studies prove that the large Southern firms, although drastically reduced in number, have embarked on radical restructuring process involving profound transformation of their procurement organisation, in line with large firms in industrialised countries. Alenia, a leading Italian firm in the aerospace industry, is a case in point. In spite of the paucity of the data, coupled with the difficulty to obtain significant disclosure in such a sensitive area, our paper underlines a major change in Alenia's procurement mode.

To pursue its lean strategy, Alenia followed the trend of increasing outsourcing, reduction of the vendor list, implementation of system supply policy and single sourcing. It also built up a hierarchical structure in the supply chain, driving supplier firms to find alternative markets outlets. The final configuration shows some resemblance to the core-ring system where supplier firms are organised by the "visible hand" of the prime manufacturer, Alenia.

As regards to the other main point of our paper, i.e. the likely impact on local supplier firms, we underline that the outcome has been severe and profitable at the same time. Reduction in the workforce and the exit of several marginal firms have represented a loss in an area where the industrial structure is weak and the unemployment rate unbearably high. However such negative trends are common nowadays due to a structural crisis combined with the effects of the Asian recession.

The survival of eleven southern firms is a sign of their technical and managerial ability, now qualifying them to participate in the global supply chain and benefit from the transmission of entrepreneurial know-how flowing from the top of the hierarchy. In connection to this, the active role played by Alenia as a governance structure fostering and supporting the selected suppliers merits all due respect.

We have stressed the relevance of the present and future role of Alenia in the international division of labour since it has important repercussions on local development. While a joint-venture partnership is highly preferable to a risk and revenue partnership, in order to become a truly valuable partner Alenia needs to strengthen and upgrade its core competencies. The ways in which a proactive industrial policy can speed up the process and indirectly foster Alenia's commitment to Southern Italy's development should be a major concern of the Italian government and is certainly on the agenda for future research.

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- i. In the defense aerospace industry, lean has taken hold in the form of the Lean Aerospace Initiative (LAI). "LAI was launched in 1993 when leaders from the U.S. Air Force, the Massachusetts Institute of Technology, Labor Unions, and defense aerospace businesses began a trail blazing partnership to revolutionize the industry, reinvigorate the workplace, and reinvest in America". See <http://web.mit.edu/lean/index.html>
- ii. In their model, Taylor and Wiggins (1997) show that rising technological complexity in supplied products (complex subassemblies, as the ones we mention in the text) significantly raise the efficiency of the Japanese procurement style. The latter does not require inspection costs to ensure product liability; incentive for product quality being rooted rather in contract renewal.
- iii. Airbus industry is actually a consortium of some European aircraft firms. It is one of the main examples of international collaboration in civil aeronautics. The principal partners are Dasa (Germany) 37.9%, Aerospatiale (France) 37.9%, British Aerospace (Britain) 20% and Casa (Spain) 4.2%. Unlike the Europeans, Boeing has not yet entered into any true joint ventures with an equal sharing of responsibility. Instead, the US airframe manufacturer has pursued risk sharing subcontract collaborative agreement in which the junior partner companies share launch costs, accept some of the commercial risk and provide market access in return for production work, potential profits and a development of national capacity (Aerospace, 1994, p. 17).
- iv. In France as well as in Spain the aeronautics industry has been created to promote the development of the South (Beckouche, 1996). In Italy, when it was established in 1969, the name of the company was Aeritalia. It was created with the joint participation of FIAT (a private group) and Finmeccanica (state-owned IRI group). In 1976 the IRI group bought Fiat's share, thus becoming the sole shareholder. On the Italian case and the attempt made by the Government to link the aerospace sector into its strategy for southern regional development, see also Todd and Simpson, 1986.
- v. Out of 1420 employees, 61.2% is in major firms, 28% in southern minor firms and 10.8% in center-north minor firms. The average size of the major firms is 271 employees, the minor southern firms averaging 36 and the minor center-north firms 30.
- vi. In fact, the customers other than Alenia are all operating in the same industry and all belong to Finmeccanica conglomerate.

A PROFILE OF MICROENTERPRISES IN RURAL INDONESIA

Surendra P. Singh, Sammy Comer, Carter Catlin Jr., Ruthie G. Reynolds and Agus Sutanto

Abstract

The importance of microenterprises in the alleviation of poverty in developing countries such as Java, Indonesia has been well documented. In depressed area such as the villages of Krendetan and Banjaroyo, microenterprises become even more important because of the high rate of under employment. This paper reports the findings of a research study designed to investigate the characteristics of selected rural villages in Java, Indonesia. The characteristics of enterprises in rural villages were then compared with those of two urban villages. The results of the study showed rural conditions influence the types of microenterprises developed by inhabitants of rural areas. There was a significant at the .01 level when the rural villages were compared with selected urban villages.

Introduction

Government officials and other interest parties are continuously seeking new and better ways to improve the plight of rural inhabitants. Research has shown that the promotion of and the development of microenterprises are instrumental in providing employment and raising the standard of living of poor people all over the world. Individual countries, as well as supporting organizations, have invested vast amounts of resources in an attempt to determine how best to insure a positive outcome from these investments. It is generally accepted that more information is needed about the characteristics of various existing small business enterprises. Such information may be used as a basis to develop a framework for the design and operation of successful microenterprise ventures.

The purpose of this study is to add to the growing body of knowledge regarding the characteristics of microenterprises and needs of small business owners. Specifically, this paper reports the findings of a study designed to produce a profile of the types of industries owned by a selected group, microenterprise owners in rural Java, Indonesia. The expected outcome of the research is to provide information needed to provide more meaningful programs for entrepreneurs in developing countries. Since much of the theory underlying the study of microenterprise can be traced to developing countries, such insight is also expected to be of benefit to microenterprise program providers in developed countries.

Background

Small business development is widely accepted as a viable means to self sufficiency. Support and promotion of small businesses contributes to greater overall economic efficiency and growth. Prior research supports this claim. According to Chuta and Liedholm (1990), small business provides 20 to 45 percent of full time employment and 30 to 50 percent of household income in Asia.

The use of microenterprise development as an anti-poverty economic development tool has been studied extensively in Asia, and other developing countries such as Africa and Latin America. The International Labour Organization (1985) and numerous other organizations have used microenterprise development to help economically disadvantaged people create employment for themselves. Recent studies that support the viability of this individual job creation strategy are reported by Raheim and Alter (1995), Clark and Kays (1995), and Benus, Johnson, Wood, Grover, and Shen (1995).

The Region

The Republic of Indonesia is geographically diverse and contains over 13,500 islands. Its land area is two million kilometers. It has a population of 200 million people and is the world's fifth largest populous nation. The country has maintained a high rate of economic growth well in excess of the population growth rate. Indonesia's population grew at a rate of 1.9 percent per annum from 1980 to 1990, and it is expected to grow at a rate of 1.6 percent per annum during the period 1990 to 2000. The population is relatively young. In 1987, 37 percent of the inhabitants were 14 years of age or younger.

Due to a young population, the labor force is growing at a faster rate than the population. In a ten-year period of time, the size of the labor force increased from 52.4 million in 1980 to 72.4 million in 1990. It is expected to increase to over 101 million by the year 2000 (Center for Rural and Regional Development, 1991).

Despite the rapid growth of the workforce, the structure of the economy is still based on informal, traditional activities. Indonesia's most important sectors are agriculture, forestry and fishing. These three segments account for approximately 20 percent of the country's Gross Domestic Product and employ more than 50 percent of the country's labor force. Despite the modernization efforts in the workforce, approximately 28 million people live in poverty. In 1997, the country's unemployment rate was only 5 percent but its under employment rate was 40 percent (USAID, 1998).

Java, one of the five main islands in Indonesia, comprises only 7 percent of the land area, yet it holds more than 54 percent of the country's population. Java is divided into four provinces. Two of these provinces, Central Java and Yogyakarta, are the focus areas for this study. The population of Java is 105.83 million people with a population density of approximately 900 persons per square kilometer (USAID, 1998). Java's main agriculture crop is rice.

The Study

Entrepreneurs in two rural villages in Java were interviewed. One of the villages, Krendetan, is in the Province of Central Java, part of the district of Purworejo, and part of the sub-district of Bagalen. The second village is in the Province of Yogyakarta, which is in the district of Kulonprogo and sub-district of Kalibawang. Krendetan's population is 576 people per square kilometer and Bajarayo's population is 546 people per square kilometer (USAID, 1997). The two rural villages were compared with two urban villages, and the Chi-square test of significance for differences was used to analyze the distribution of enterprises by types.

In rural Java, use of land for agricultural purposes can be grouped into wet-land and dry-land. Wet-land is usually located in the lowland area, being irrigated to a certain degree and used for paddy growing purposes. Wet-land is used for growing horticultural and perennial crops. Most dry-lands are non-irrigated and rely on rain fed agriculture. Over 90 percent of the total village area is under agriculture use (Monografi and Potensi Desas, 1995).

Sample Selection

A stratified random sample of microenterprises in each of the villages was selected from the list of enterprises provided by local officials and village leaders. Since there was no written list of existing enterprises at any organizational level, a formal sampling framework could not be developed.

The village leaders provided the information on the type and location of the enterprises. Based on the available information it was decided to survey 50 of the existing enterprises in each of the two selected villages. The researchers ascertained that the selected enterprises represented diversity in size and type in rural Java.

A coded questionnaire was used to collect the data. The questionnaire was translated into Indonesian language and pre-tested before the actual survey was conducted. Trained enumerators who documented participants' response conducted personal interviews. The research questions were directed to owners of small businesses; however, in some instances the owners' manager or assistant provided the responses. The questionnaire included questions regarding the developmentally status of the villages and characteristics of the types of industries owned by the entrepreneurs.

Results

Table 1 shows the distribution of enterprises by type for each village. Food processing was the dominant industry in both rural villages. Sixty-six percent of the respondents in Krendetan engaged in food processing, whereas 58.0 percent of the respondents in Banjaroyo participated in food processing.

The least practiced enterprises were production/manufacture and transportation in Krendetan. There were no transportation enterprises and no garment/textile enterprises in Banjaroyo.

Table 1 - Percentage of Selected Enterprise by Type of Enterprise and Village: Rural

<i>Type of Enterprise</i>	<i>Village</i>	
	Krendetan (%)	Banjaroyo (%)
Production/Manufacture	2.0	10.0
Food Processing	66.6	58.0
Garment/Textile	4.0	0.0
Trade	16.0	28.0
Service	10.0	4.0
Transportation	2.0	0.0
Total	100.0	100.0
X ² (Chi-Square) value for village = 24.996** Significant at p=.01		

Table 2 shows the two rural villages compared with two urban villages in Java. When 50 enterprises from two urban villages, Bangunjiwo and Tamanagung, were compared with the two rural villages under study, their distribution was found to be statistically different [X² (Chi-Square) value for village = 24.996** Significant at p = .01} .

This finding implies that the conditions (urban or rural) may impact the type of enterprises started. The more developed activities usually are conducted near commercial centers. As Table 2 shows, urban villages had more production/manufacture, service sand garment/textile enterprises.

Table 2 - Percentage of Selected Enterprise by Type of Enterprise: Rural and Urban

<i>Type of Enterprise</i>	<i>Urban</i>		<i>Rural</i>		<i>Total</i>
	Bangunjiwo (%)	Tamanagung (%)	Krendetan (%)	Banjaroyo (%)	
Production/Manufacture	72.0	32.0	2.0	10.0	29.0
Food Processing	6.0	14.0	66.0	58.8	36.0
Garment/Textile	2.0	12.0	4.0	0	4.5
Trade	12.0	18.0	16.0	28.0	18.5
Service	8.0	24.0	10.0	4.0	11.5
Transportation	--	--	2.0	--	0.5
Total	100.0	100.0	100.0	100.0	100.0
X ² (Chi-Square) value for village = 24.996**Significant at p=.01					

Conclusion

The results of the study showed that the majority of the entrepreneurs in rural Java, Indonesia engaged in traditional product markets -- food processing, production/manufacturing and trade. The dominant industries had low entry barriers with regard to capital and technology.

Research findings are helpful in designing programs to further assist small business owners in creating successful microenterprises. Additional research is recommended to continue the search for better ways to improve small business development.

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THE NATURAL HISTORY OF A SUCCESSFUL, SMALL, YOUNG, HIGH-TECHNOLOGY COMPANY

Lorraine Warren and William E. Hutchinson

Abstract

This paper reports the natural history of a successful, young, small, high-technology company in Perth, Western Australia. This case study is part of an ongoing larger survey concerning the success factors for Small and Medium Enterprises (SMEs) in this sector of industry both in Australia and the UK. A detailed natural history of the company is presented in the context of existing models for success in the literature. Conclusions are drawn as to the fit of such models in this case, and as to how such models might be employed during the process of organising.

Keywords: SMEs; high technology SMEs; young SMEs; Australian SMEs; entrepreneurial firms; success factors

Introduction

The act of establishing a successful small/medium enterprise (SME) is a daunting one in any sector of industry or commerce. As highlighted by Litvak (1992), for those seeking to establish a small technology-based company, the challenges are even more numerous and complex. He argues that the technology-based industry and marketplace is characterised by long lead times from basic research to industrial application, short lead times in commercialization and accelerated obsolescence under global competitive pressures from new product and process innovations. Market opportunities are often short-lived, and technological breakthroughs can quickly wipe out success. Clearly, for such companies, how to compete and succeed in such a turbulent environment is a huge concern. Their success is also important at the national level, given their contribution to a technically advanced and innovative economy.

This paper reports preliminary findings from a case study carried out to inform an ongoing larger survey concerning success factors for high-technology SMEs in Australia and the UK. The background to this case is presented in the next section. This is followed by the case itself, in which a detailed natural history of a high-technology SME (referred to as "Itech") is presented in the context of existing models for success in the literature. Finally, conclusions are drawn as to the fit of such models in this case, and as to how such models might best be employed by practising managers.

Background

Our area of interest is in determining success factors relevant to managers of high-technology SMEs in Australia and the UK, given the difficulties and challenges identified above. As part of our preliminary investigations, we investigated a successful, young, small, high-technology company in Perth, Western Australia, with a view to informing future work and testing existing models for success from the literature. Our approach was to explore the natural history of this company from its genesis to the present day, in contrast to the 'snapshot' approaches (often quantitative surveys) which tend to prevail in the literature. This prevalence is perhaps not surprising, given the difficulties in carrying out follow-up surveys in a sector which evolves rapidly and has a high extinction rate. Litvak (1992) for example, reports that only 10 of 29 companies investigated in 1970 were still in independent operation in 1992.

Notwithstanding the turbulence for those researching this particular business environment, there is a significant body of work in the academic literature which may be relevant to those seeking to establish successful high-technology companies. However, there are few articles which directly address the notion of success factors. It should be noted that although the overall volume of published work in this area is impressive, it is rather diffuse and fragmented, reflecting a range of multi- and inter-disciplinary perspectives. Moreover, Shearman and Burrell (1988) comment (p. 93) that the usefulness of the conclusions of many authors in this field is limited by a lack of definitional clarity, often within the same article: "New technology-based firms are confused with SMEs, small medium firms (SMFs) small firms, small specialist firms, small units, small entrepreneurial firms, high technology firms and new technology-based small firms". Although this comment was made some time ago, in many instances it still holds true today: for example, Litvak (1992), does not define what he means by "small technology-based companies" in the article referred to above, although it is perhaps unfair to single him out, as he is by no means alone in this type of omission. Given this volume of work, and its complexity and ambiguity, it is beyond the scope of this paper to present a full literature review; nonetheless, some recent works pertaining particularly to the characteristics of, and success factors for high-technology SMEs can be highlighted here.

Concerning SMEs in general, a large amount of research was carried out in UK universities in the early part of this decade, funded by the Economic and Social Research Council (see Storey, 1992, for an overview). Other contributors include Macrae (1992) who describes the characteristics of high and low growth small and medium sized businesses in Scotland. On a more international note, Theng and Boon (1996) explore factors contributing to the failure of SMEs in Singapore. More specifically, Beamish et al (1993) compare the characteristics of SME exporters in Canada and the UK. The work of Rothwell and Zegfeld (1982) on product innovation has also been influential, this strand of activity being more recently continued by Romano (1990), who identifies factors which impact on product innovation to influence small business success.

Research effort has also focused on SMEs with a technology focus, with some early work from Shearman and Burrell (1988), who discuss the nature of new technology based firms and their capacity for employment generation. Covin et al (1990) describe the effects of technological sophistication on strategic profiles, structures and the performance of organisations. Forrest (1990) addresses herself to business environment concerns with a study of the importance of strategic alliances to small-technology based firms. Weinstein (1994) has carried out a comparative study of small versus non-small companies in technology-based industry from the point of view of market definition. In terms of success factors, as referred to above, Litvak (1992) sets forth a set of guidelines as "winning strategies for small technology-based companies". Ackroyd (1995) has also identified the characteristics of successful small, UK-based information technology firms. A number of interesting, but perhaps less generalisable case studies can also be found, for example, Bouwen and Steyaert (1990) on the processes of organising in young, entrepreneurial firms, Martin et al (1991), who present a case study of a small business developing artificial intelligence applications; Latona and LaVan (1993), who record the implementation of an employee involvement programme in a small, emerging high-technology firm; Price and Chen (1993) who discuss how a Total Quality management Systems can be tailored for a small, high-technology company; finally, Pearson et al who discuss links between operations management activities and the high growth of small electronics firms.

The most relevant parallels to our interest in success factors for managers of high-technology SMEs were those of Ackroyd (1995), Covin et al (1990) and Litvak (1992). Ackroyd reports the discovery of some small but successful information technology firms in the north-west of England. Ackroyd's survey classifies almost one hundred such firms into three categories. The largest group were retailing organizations dealing in computer products and services (mail order companies, in essence), and could hardly be described as high-technology firms at all. Another group were highly specialist niche marketers, for example, one firm designed systems for producing carpet designs. The third group, which were of most interest to Ackroyd were classed as "dynamic IT companies", and are claimed to have highly distinctive features. In summary, they are:

- Very small staff numbers
- High turnover and value-added
- Variety of legal forms
- Small working teams as basic operating team
- Lack of orthodox structure
- Organizational boundaries indeterminate
- Informal affiliations and alliances crucial (internal and external)
- Few owned by, or affiliated to larger companies
- Organizational strategy and design follows staff competences and interests
- Staff multi-skilled knowledge workers
- Highly oriented toward customers
- High adaptability and mobility
- Growth by replication (not by increases in scale)

Ackroyd argues that these dynamic firms are adopting (to different degrees within the class) an organic structure, as opposed to a mechanistic one, a conclusion which supports the earlier work of Covin et al (1990) in America. Covin et al study the differences between the operation of high-tech and low-tech small firms, employing a distinction between macro- and micro-strategy variables. At macro-level, as well as organic structures, high-tech firms tend to have more entrepreneurial management styles; at microlevel, innovative marketing, patents/copyrights, new product development and customer service and support were important. One of their conclusions is that practically, heavy reliance on any small set of variables is likely to fail; from a theory-building perspective, they are attempting to generate a "tentative taxonomy of small firm strategic gestalts".

Ackroyd's (1995) work was of interest to us, although he was not directly addressing the question of success factors, as it was clear from an early stage that Itech fell into this category (as discussed in detail below). Ackroyd goes on to explore the macro-economic forces which have led to the emergence of this type of company. Our interest lies more in the micropractices of those seeking to successfully establish and manage them successfully. The classification poses an interesting research question: if such structures are successful, as both Ackroyd and Covin's (1990) work suggests (although 'success' is not defined), how do they arise in practice? What decisions are made by managers during the process of organising which lead to the adoption of this form? Can macro- and micro-strategies be formulated, linked, adopted and implemented in a formal-rational manner, or is the process far emergent and interpretive, as suggested by Mintzberg (1994)? Are there regional differences in Australia, as oppose to the UK and America? These questions are explored through the natural history presented below.

Following the strategy route, Litvak (1992) takes a rather more direct approach to establishing success factors, with the presentation of the following guidelines for success:

- Pursue a global marketing niche strategy
- Concentrate on products for which competitive advantages can be sustained and enhanced
- Gain production flexibility and efficiency through subcontracting and investment in advanced manufacturing systems
- Incorporate product and process technology into strategic plans
- Develop the ability to obtain government R & D grants and to generate government business
- File for patents in OECD countries
- Promote corporate growth through strategic alliances
- Raise capital by giving up some equity ownership
- Provide equity participation to keep employees
- Develop a mission statement that captures the owners intent. The formulation of such a statement should involve the participation of key employees.

It is difficult to assess the relevance of Litvak's (1992) prescription to our case, as he does not provide details of organisational structure and activity. Although he addresses different variables and issues to Covin et al (1990), it could be argued that his is a macro-strategic approach. Notwithstanding our definitional caveat, the listing returns us to one of the research questions posed above, that is, are strategies rationally planned, or do they emerge? Again, this is explored through the natural history below.

Natural History of Itech

Methodology

The data presented below was obtained during two hour-long interview sessions with one of the founders of the company (the IT consultant), who was a personal acquaintance of one of the researchers. Written notes were taken during the interviews, which were also taped and later analysed aurally. We were allowed to question freely, with no areas identified as 'out of bounds' either before, during, or after the interview. Despite our efforts, we were unable to interview the other founder of the company, due to his business pressures. Two visits were made to the company premises, which we observed in their entirety. A documentary search was also carried out. The analysis of the data is presented below, beginning with an overview of the company's history, followed by estimated annual turnover, a profile of the company's employees and a brief discussion of the organisational structure. Finally, the success factors identified by an interviewee are presented.

Overview

Itech was established in 1990 by two partners, one who was previously working for a large conglomerate as an IT consultant (Tim), the other worked as an accountant in private practice (Jack). The business was established initially to sell the BigSystems accounts package to midsize businesses in Perth (with turnovers of \$AU5 - 50 million). Essentially an agency in these early stages, the company soon began to diversify into network design, "bits and pieces" and some software development (for example, a real estate package). This diversification occurred in response to opportunities arising, and the slow business cycle in the original agency business, due to the conservative nature of the accountancy business. A major change occurred at the end of 1992, when a sizeable government contract was obtained in Fiji, which led to the establishment of an office there. This is now largely managed by Jack, with Tim concentrating on the home business. By 1994, the software development side really took off, as the company spotted a gap in the market and developed a complementary product to the mainstream accounts package -- Ivision, in essence an executive information system, which is marketed worldwide. This sector of the business now performs so effectively that in March 1998, the company divested their small operations in network design and bespoke software development.

In the future, now that the growth curve is flattening (see Table 1, for details of approximate turnover) it is likely that the business will expand following an amicable split along the software development/agency divide.

Table 1: Approximate turnover of Itech by year	
Year	approx. turnover (\$AU)*
1990	150,000
1991	300,000
1992	600,000
1993	800,000
1994	1,000,000
1995	2,000,000
1996	3,000,000
1997	4,000,000
1998 (projected)	5 - 6,000,000
*15-20% of turnover now from Fiji operation	

Employees

The increase in the number of employees each year can be seen in Table 2. The breakdown of current employees by type is:

Directors	2
Programmers	7
Quality Assurance	5
Administrators	3
Marketing	2
Technical Support	2
Consultants	5

The main criteria for employment were given as:

- formal qualifications
- able to work autonomously
- easy to work with -- "fit in"

Staff turnover was highest in the administration area; on average, programmers stayed 5-6 years, which compares well with the industry norm of 3 years.

Year	Number (Perth*)
1990	2
1991	5
1992	8
1993	12
1994	16
1995	18
1996	20
1997	26
1998 (projected)	29
*plus 4 in Fiji	

Organisation structure

Until around the end of 1994, structuring was resisted, with only the founding partners being distinguished informally as the senior management team, with the rest of the organisation being flat, with groupings around projects. At the end of 1994, a hierarchical level was introduced when the administrative staff started to be managed by an accountant. Around mid-1997, after a number of failed experiments, a manager for client services was appointed from outside.

The flatness of the structure reflected the preference for autonomous working of the founding partners -- "not an ego trip place".

Success factors specified by Tim

In order of response:

- never borrowed money
- good partnership, trust previously established
- high skill level of employees
- know the business
- good technical back-up to foster trust and confidence from customers
- good after-sales support
- luck -- right time, right place, particularly the Fiji development
- spotting a gap in the marketplace (Ivision)
- good social atmosphere

- don't expand too fast internationally and compromise your local market

Conclusions

In every characteristic of organisational structure and dynamics, Itech is an archetypal antipodean instance of the grouping of successful IT firms identified by Ackroyd (1995) in the UK. Employees are highly skilled, flexible, autonomous working teams are the order of the day. The natural history and projected future of Itech reveal the characteristic pattern of growth which does not embrace increases in scale, but instead, there is a preference for offloading excess operations until an optimum moment for division and growth by replication takes place. Our findings are also in accordance with those of Covin et al, with one key distinction: in contrast with their identification of high external financing as a significant factor, Itech rated not borrowing as one of the most important factors in their success. Whether this is an exception to the generalisation, or a regional difference is one of the factors which will be explored at a later date.

The main usefulness of our study, however, was that in its use of the natural history method, we were able to explore in a longitudinal manner, the twists and turns of the company's development and the decisionmaking processes which led to them. The most significant events in the company's history, in Tim's view, were linked to three conscious decisions:

1. not to borrow money from external sources (a formal-rational, planned decision, in response to memories of the economic turbulence in the 1980s, reinforced by the current economic downturn in the Pacific Rim)
2. to develop the Ivision product (responding to a gap in the market -- an emergent strategy)
3. to set up the Fiji operation (responding to a chance opportunity -- an emergent strategy)

The other characteristics of the company, such as flexible, autonomous working teams and informality were outcomes not of conscious decision making processes, but were reflections of Tim's own personality, as evidenced by the emphasis on the company being "not an ego trip place" plus the emphasis on employees having to "fit in" and the difficulties encountered when they did not. The business experience of Tim and Jack, in sensitivity to the prevalent macro-economic zeitgeist, also led to the largely unconscious choices of highly skilled employees and a strong emphasis on customer service, as evidenced by much use of the word "obvious" in the interviews.

In conclusion, high-technology small firms which have the characteristics identified by Ackroyd (1995) may well stand a better chance of success in the current climate than those who do not. The successful companies studied by Litvak (1992) and Covin et al (1990) may well identify whether certain variables or practices are factors in their success. Our findings for Itech are in accordance with these earlier works, and go a little way to validating their findings, with one main exception (whether or not to obtain external finance), for another region. However, what these works all have in common is that they are a snapshot of a point in time: 'getting there' has not been addressed. In our case, 'getting there' was not the outcome of any formal conscious strategy at either macro- or micro-level, nor were Itech aiming at any particular structure. Itech arrived at their present level of success through, with few exceptions, an accumulation over years of the outcomes of micropractices emanating from the personalities, and high level of expertise of the individual managers concerned and chance environmental events. In other words, in this instance, successful practice was context-bound, not a 'given' social reality. In this, we are in broad agreement with Mintzberg's (1994) critique of formal strategy planning.

To conclude, the identification of success factors for high-technology SMEs cannot be interpreted or used as a recipe for achieving success, as we know little about the processes of organising. However, the agreement in the literature strongly indicates commonality of outcome, so they clearly have value for practitioners as a target to aim for. As there is a gap in the literature, we intend to investigate whether there is commonality of process as well as outcome. As it is not possible to generalise from one case, this is the focus of the ongoing work which this preliminary study has informed.

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COMPUTER-AIDED VISIONING AND LEARNING-ORIENTED MODELS: A NEW EDGE FOR SMALL BUSINESS PLANNING

Carmine Bianchi, Graham W. Winch, Colin Grey

Abstract

Many unresolved issues plague the field of academic research and practitioner debate surrounding the role and value of planning in the small firm, though a recognized obstacle to the introduction of any formal system is the simple lack of time and resources. Conversely, it has been demonstrated that planning can be a powerful lever in pursuing change and growth, in small firms as in larger ones. The main thesis of this paper is that the scientific debate on SME planning should not only concern the planning activity *per se*, but also the *rationale* upon which decision making process is based. In also questioning the value of traditional planning approaches in the precarious situation of the growing small firm, this paper proposes a *learning-oriented* modeling approach to small business planning. This approach can build the critical bridge between the informal planning and entrepreneurial thinking of the SME manager, and the formal plans upon which many growth ambitions are predicated.

1. Introduction

Planning and decision making in SMEs are a puzzling research topic on which both scholars and practitioners have long been debating. The major issues on which the scientific debate has been focused are related to whether business planning...

1. ... *is beneficial* to the management of small firms' growth (Schwenk, Shrader, 1993; Robinson, Pearce, Vozikis, Mescon, 1984; Bracker, Pearson, 1985);
2. ... must differ, according to the particular *growth stage* of the firm (Churchill, Lewis 1983);
3. ... ought to be based on *formal or informal* documents and *structured or unstructured* procedures (related, e.g., to data acquisition, "actors" involved, and information provided), on *simple or sophisticated* techniques (for example, Unni, 1981; Armstrong, 1982; Shrader, Taylor, Dalton, 1984; Orpen, 1985; Sexton, Van Auken, 1985; Watts, Ormsby, 1990; Matthews, Scott, 1995);
4. ... ought to be articulated on different *hierarchical levels* (corporate, business unit and functional area) and focused on several responsibility centers, or instead only oriented to corporate activities (Robinson, Logan, Salem, 1986);
5. ... ought to be done either on a *regular* basis (e.g. at the beginning of each financial year) or, instead, *occasionally* (e.g. in the start-up stage or in order to get loans and/or financial grants from private or public institutions);
6. ... ought to be *rational*, rather than *intuitive* (Mintzberg, 1973; Quinn, 1980; Fredrickson, Mitchel, 1984; Bhide, 1994; Matthews, Scott, 1995).

A widely recognized obstacle to the introduction of planning and budgeting systems into SMEs has been the simple lack of time and resources, human and financial (Robinson, Pearce, 1984). On the other hand, it has been demonstrated that planning can be a powerful lever in pursuing change and growth, in small firms as in larger ones (for example, Shuman, 1975; Ackelsberg, Arlow, 1985; Gibb, Scott, 1985; Braker, Keats, Pearson, 1988; Foster, 1993).

The main thesis of this paper is that the scientific debate on SME planning should not only concern the planning activity *per se*, but also the rationale upon which decision making process is based, that is, how goals and policies are implicitly or explicitly set by decision makers. Further, the paper addresses the peculiarities of decision making and managerial processes in SMEs, especially in familyowned firms, as well as the role that external actors may play in small business planning, and the sources of data, the methodologies and tools on which the planning process may rely.

The paper also discusses the potential for, and implementation issues in the introduction of *computer aided visioning* (CAV) tools, based on learning-oriented models for small business planning (Bianchi, Winch, Grey, 1998; Gibb, Scott, 1985). It demonstrates how such a learning-oriented perspective can support small business entrepreneurs in critical challenges of understanding how current decisions affect future growth, coping with major change, and envisaging the future business system, and the linking of informal strategy with formal plans.

2. Growth as a major goal, and learning as a prerequisite for growth.

Frequently, small business owner-entrepreneurs pursue growth as an explicit or implicit goal through which they aim to satisfy different needs, such as:

- *self-esteem* -- growth may allow them to successfully put into practice their business ideas, winning over their direct competitors, providing employment to the community, etc.;
- increasing the business-owners *family assets* and *quality of life*;
- *financial autonomy* -- growth is often pursued to guarantee long-term family security and stable job opportunities for the entrepreneur's children and/or other family members;
- *keeping pace with industry trends* -- for example, in response to technological innovation, potential market size, consumer tastes, or competitors' aggressive policies;
- *better exploiting opportunities* from available resources (see Penrose, 1959, chapter 5);
- *surviving the start-up phase* and building a robust long-term business.

(Of course, growth can be also perceived by entrepreneurs as only a minor goal -- see, for example, Airoldi, 1988 on marginal firms, and Julien, Marchesnay, 1988 on craftsmen-owned firms; Penrose, 1959, discusses other situations).

Although there may be several factors determining a business's quantitative -- that is dimensional -- growth, it will always be the case that qualitative growth (Coda, 1988), at least, is a major goal against which entrepreneurs have to evaluate their decisions. Firms have always to be oriented towards understanding the systems within which they operate, in terms of market needs, competitors' and clients' behavior, causes and effects of decisions and pressures, delays between policies and results, etc. To this end, *all firms need to learn, and learning is the prerequisite for growth*. But this in turn raises the issue of to what extent conventional planning and control systems are likely to support small business entrepreneur's learning and analysis of how to manage growth?

3. Business planning and small firms' critical growth stages.

A useful framework to focus the potential role of planning for small business growth management is provided by Churchill and Lewis (1983). Their model stems from an analysis of the literature concerning the life-cycle of organizations (Rostow, 1960; Steimetz, 1969; Greiner, 1972; Normann, 1977; Scott, Bruce, 1987). Churchill and Lewis proposed a non-deterministic approach, based on five different sequential phases of development for a growing small firm -- existence, survival, success, take-off, resource maturity. Each phase is characterized by an index of size, diversity and complexity and described by different management factors, among which business planning and control systems play an important and different role according to the particular growth stage of the firm.

The *Existence* stage concerns business start up (Bhide, 1992). The main problems are related to building a sufficient customer and sales base, and to getting the necessary liquidity to feed initial financial needs. A critical resource is equity-owner's entrepreneurial ability in managing by him/herself all relevant business functions, matching personal and business goals and finding proper monetary resources. When the firm reaches the second stage (*Survival*) it has demonstrated itself to be a workable business entity. It has accumulated a minimum credibility in its market, and is able to satisfy its customer base with its products. Critical resources are the same as in the previous scenario. Cash management is particularly critical, as cash flows from consolidated products have to feed financial needs from current operations and to support growth (i.e. investments in new products, processes, management systems, human resources, etc.). In the survival stage, the company may either grow in size and profitability and move on to the next stage, or remain at this phase for some time, earning marginal profits and possibly eventually going out of business.

Even though, in the above two stages, systems and formal planning may be minimal to non-existent and the company's strategy is simply to consolidate its market position remain alive, drawing up a formal business plan either for internal or external use (for example, in relation to a loan application) or even sketching an informal plan in the entrepreneur's mind may be very helpful to support growth management awareness. In the last decade, there has been a growing trend of small firms utilizing formal business plans as a modeling tool in the start-up phase; a major reason for this phenomenon is that such a document is usually a prerequisite to acquiring grants from public funds or bank loans. Typically, however, entrepreneurs have viewed drawing up their business plans as a bureaucratic constraint, rather than a learning tool, which may help them to be aware of the business formula that is going to be adopted. The outcome of such a mechanistic perspective is a static and non-systemic document emerging from the aggregation of disparate data (e.g. commercial, financial, statistical, macro-economic, etc.) that do not assist the entrepreneurs understanding the structure of the dynamic system in which their firms will operate. The third and subsequent stages are really outside the scope of this article -- the Churchill and Lewis model defines the firm as large and complex and the role of formal planning and of computer-supported strategic planning is well established and documented. Nonetheless, a *learning-oriented* approach ought to characterize planning and decision making, regardless of the firm's maturity or its evolutionary stage, and the level of formalization of such processes. Awareness of the system within which the business operates, emerging from a continuous learning process based on questioning and understanding causes and effects between and among key-variables, is the way to open up entrepreneur's mind to the very real questions to face in order to set goals, policies and action plans. For example:

- How to frame the firm and its competitive system?
- How to map relationships between the firm and financial institutions, the businessowning family, customers, competitors, etc?
- How to estimate the time it takes to attain expected results, as a consequence of a given set of adopted policies?
- To what extent business quantitative growth is a healthy condition for the firm?

Not untypically, for instance, a crisis is caused by attempting to growing too fast, e.g. by generous payment terms allowed to customers or too sharp a reduction in delivery time and/or prices, in an attempt to increase market share. While such "aggressive" commercial strategies may lead to higher income in the short term, they often cause a financial crisis in the longer term. In such cases, the entrepreneur may not understand why growth, which initially led to higher sales revenues and profits, suddenly threatens the firm's survival. He/she cannot see the causes of a drastic and progressive reduction in working balances, despite increasing sales revenues. Likewise, it seems a contradiction that significant "order backlog" cannot be filled because of stock unavailability. Sometimes it can be also unclear the rationale of customers' behavior, who reduced their demand, in spite of aggressive commercial strategies of the firm.

Conceiving business planning in a *learning-oriented* context may allow the entrepreneur to foresee the future stages of business growth and, consequently, to understand the best timing for increasing efforts in building a specific set of strategic assets and other relevant resources that will allow the firm to move to the subsequent stages. Such an approach to business planning is likely to support entrepreneurs' understanding of cause-and-effect relationships between cash flows generated or absorbed by consolidated and new products, as well as the trade-off between support and development investments (Wolstenholme, 1990). Another important decision area that could be improved is related to the understanding of the dynamics generated by commercial policies on sales revenues, current income and cash flows in a short and longer time horizon. For instance, a prolonged increase in terms of payment allowed to customers could give rise to a growing net working capital (Bianchi, Mollona, 1997; Bianchi, Bivona, 1999), leading to lower liquidity and, other conditions being equal, higher "debt-to-equity" ratio, and higher interest costs in the longer term negatively impacting on profitability. The misperception of such dynamics and the risk of failure could be also increased by inaccurate short term liquidity withdrawals, based on higher profit expectations, that would even more increase the "debt-to-equity" ratio and prospective business solvency. From the above remarks it emerges that, although the higher flexibility and reduced scope of the business system in the first two stages of growth might discourage the use of formal and structured planning systems, the entrepreneur always needs a learning support which might help him/her to understand the structure of firms' operating environment. Framing the *planning process as learning* implies the ability to recognize the critical determinants of that system's behavior and the firm's consequent performance within it. This ability involves decision makers identifying the relevant feedback structures, policies, external constraints, and time delays between actions and related effects. In this perspective, drawing up business plans according to a learning-oriented approach is a philosophy intersecting and enriching the planning process, regardless the level of its formalization and the growth stage of the firm.

Such an approach may, in particular, provide substantial help to new entrepreneurs in rationalizing their business ideas, assessing better their feasibility and profitability, and more easily communicating them to potential funders. This will serve to ease their business ventures through the next growth stages. Nevertheless, in order to adopt such an approach to planning and decision making in a small enterprise, two main critical issues must be taken into account:

- entrepreneurs' personal business attitudes;
- the availability of flexible and user-friendly modeling methodologies and software tools.

4. Factoring in entrepreneurs' personal business attitudes and other main "actors"

In order to get 'big firm' strategic thinking and planning into SMEs, it is necessary to consider the peculiarities which characterize management complexity in smaller firms, and which may discourage any kind of systematic replication of approaches commonly adopted in bigger company practice. The main complexity factors in small firms are related to their: *a)* lack of a professional management team and other qualified resources like manpower and finance, *b)* tight overlap with the equity-owning family (Landsberg, 1983), *c)* weaker 'relative weight' in the market, *d)* difficulty to get relevant information for decision making, and *e)* entrepreneur's unwillingness to delegate. These and other small business-specific complexity factors may lead to a higher environmental unpredictability and to a more blurred boundary between the short and long term in decision making. This implies that small business entrepreneurs are often completely involved in current activities and, consequently, that managing small firms is often a matter of a continuous effort aimed at escaping from unexpected external or internal events. It is a kind of 'muddling through' which very often does not allow for formal or conscious judgment and planning of strategies. From these considerations the conclusion does not emerge, however, that small firms do not need to plan for their future. On the contrary, and particularly in small firms, qualitative and quantitative growth depends on the extent to which the entrepreneur is able to discern relationships between current decisions (or short-term objectives) and long-term wider business goals.

Understanding the strategic impact of current decisions in the longer-term requires higher discrimination in business planning and control systems; indeed, while current management takes place on an on-going basis, not all day-to-day decisions have the same level of strategic importance. It follows that, other conditions being equal, it is completely different detecting weak signals of strategic change if one refers to current activities, than in long term investment options which are oriented to change a firm's *business formula*. While in the first case, the structure of the system to be managed (important variables, the connections between them, delays, etc.) can usually be defined more easily, monitoring strategic relevance of current events suggests a difficulty in detecting weak signals in advance of change, as they are usually concealed in a wide range of daily occurrences in which the entrepreneur is fully involved.

The need for more selective and small business-oriented planning systems does not match well with the lack of resources and the bounded small firm environment. In fact, both empirical findings from past research (Hutchinson, Ray, 1986) and preliminary results from around twenty interviews conducted by the authors with small firms, consultants and funders located in the Devon and Cornwall, region of the UK and in Sicily, show how small business entrepreneurs are typically absorbed by day-to-day operational problems. They have neither time nor staff to invest in strategic planning, and tend to make decisions primarily on the basis of their experience and intuition. The field research also suggests that small business informal plans (or strategic thinking) and any formal plans prepared for purposes of loan/grant applications are seldom linked. The formal plans are then equally seldom used as management tools, implying an analysis of mismatches between expectations and results. Another important issue that has been raised by our field study has been the limited use by SME entrepreneurs of knowledge and

information from their network of contacts. Related to this issue, is the desire from bankers/grant agencies to exchange thinking and share information. However, the lack of tools and shared methodologies of inquiry to support the exchange process suggests the need for a different approach to small business planning and strategic decision making, that might go far beyond the physical boundaries of the firm. In fact, although such business contexts might appear as the least suitable for any kind of planning, a learning-oriented approach could allow the exploiting of the key entrepreneurial assets -- creativity and "flair for business" -- and the mental databases key company 'actors', which can become a powerful engine for growth.

In order to deal with this 'dilemma', a significant role in educating small business entrepreneurs can be played by those 'actors' involved from outside the firm in the business planning process, (Bianchi, Winch, Grey, 1998; Robinson, 1982). Figure 2 (identifies) the principal external stakeholders. Particularly during start-up and expansion stages, *professional accountants* and other *advisers* may be asked by entrepreneurs to draw up formal business plans, typically to support applications for financial grants or to obtain credit from banks. Both the procedures to be followed and the information that such plans have to provide are usually standardized by those institutions who give grants, such as *public trusts*, *banks* and other financial entities. For example in Italy, the Ministry of Industry sets standards (according to the law n. 488/1992), with spreadsheet model software provided, to be followed by entrepreneurs in drawing up their business plans for grants to finance longterm investments. Likewise, business trusts (for example, the *Società per l'imprenditorialità giovanile S.p.A.* in Italy and the *Prince's Youth Trust* in the UK), formed to finance and/or encourage new firm startups, typically define standards for business plans. A very important role in promoting new entrepreneurship is also played by *private trusts*, who also help proposers to identify weaknesses in their business ideas through formal plans, though typically these are drawn according to less standardized processes.

The above categories of external stakeholder could significantly help entrepreneurs to utilise business planning as a fundamental step to determining future growth, rather than as a bureaucratic constraint to be undertaken by accountants or advisers using standard formulae and simple extrapolation. In such cases, a pre-requisite for such a "shift of mind" is that the above "actors" also include among their roles the promotion of a new business culture oriented towards learning. Figure 3 (offers) a picture of how different actors could contribute to a business planning process leading to a written document, according to different growth stages of the small firm. It shows how the support of professional accountants, banks and public and private trusts can be significant, especially in the first two stages of development. Even though the business planning process has to be standardized by funding bodies -- in order to guarantee uniformity in criteria used for proposals evaluations, and firms resort to business planning only occasionally, a learning-oriented approach is suggested to involve entrepreneurs (and their professional accountants) in understanding the logic which lies behind values embodied within the plan. This will allow a smoother introduction of business planning in the firm's culture, and will help in moving towards the next growth stages, where the firm will plan more regularly and will develop plans based on critical functional areas.

5. Applying advanced modeling techniques to support small business planning

Popular approaches to planning in SMEs involve spreadsheet models and/or accounting packages. Spreadsheet simulation modeling, based on balance-sheet data extrapolation on a periodical basis, can help decision makers to better understand dynamics related to business growth. Often though, such an approach does not allow decision makers to adequately face their strategic information needs. In reality, spreadsheet models generally lack flexibility (Shrage, 1991): they are usually based on a linear, static and narrow approach. Their perspective is *linear* and *static* as it is based on the extrapolation of balance-sheet data and omits to consider feedback loops; it is *narrow* as it does not make explicit some relevant variables, like for instance competitors' policies. Simplifying systems analysis allows the reduction in complexity, but complexity and unpredictability ought to be understood and properly handled through the modeling. This focuses on:

- interdependencies between variables
- relationships (including non-linear) between policy levers and affected variables
- delays between causes and effects.

Standard accounting packages may prove useful in a small firm, but they do not always present the most consistent and appropriate answer to strategic business information requirements. Being based on analytical and hierarchical databases which give rise to a detailed reporting, they frequently do not fit in small firms for three main related reasons...

1. ... they are founded on the assumption that somebody (e.g. a controller) in the firm should be in charge of reporting analysis to feed the control process;
2. ... reporting that is delivered by industrial accounting is usually related to responsibility centers in order to allow managers to support performance evaluation and budgeting procedures -- however, small firms are often lacking in a technostructure and necessary formal procedures (Brusa, 1986; Bianchi, 1996);
3. ... the entrepreneur and collaborators usually do not have enough technical competence nor enough time for detailed analysis, diagnosis and formulation of corrective action.

The higher system complexity and unpredictability is, the bigger is the risk that current decisions are taken without questioning the consistency of entrepreneurs' 'mental models'. In order to overcome such weaknesses, a so-called *double loop learning* approach is advocated which allows decision makers to evaluate consistencies in their "mindset", i.e. the way how they frame problems and strategic issues (Argyris, Schon, 1978; Kim, Senge, 1994). The methods of *System Dynamics* allow the entrepreneur to make mental models explicit, to assess their consistency and to improve them. A dynamic simulation model may also be developed based on explicit statements of policies underlying the decision making process, according to conditions arising within the system. Following this systems feedback view, decision making is seen as a continuous process of converting information into signals which feed actions oriented to change system states (Forrester, 1994; Richmond, 1994). The emerging *computer-aided visioning* (CAV) concept, based on the System Dynamics methodology are designed to provide, not accurate predictions of the future, but a realistic and engaging vehicle to stimulate managers into reconsidering the ways of doing things and perhaps to adjust their mental models (Winch, McDonald, Sturges, 1997). Different stakeholders in the firm can then compare and share their new emerging view of, for example, how to prepare for major change. The use of generic structures that can be easily and quickly tailored to an individual firm (Arthur, Winch, 1998) can bring this kind of management support to the situation of change in SMEs. This could, at least in part, overcome the disadvantages experienced by SMEs against larger competitors, who will have more experience of fundamental change management, more scope to bring in managers with their key skills, and less reliance on internally appointees in times of major change (Winch, McDonald, 1999). The same tools could also substantially help entrepreneurs to timely detect the perils related to a lack of understanding of how their current decisions may impact on longer term performance.

Making decision processes more explicit through models, and improving them over represents an organizational learning process which leads to improve executives' mental models and helps them to achieve a common shared view of reality (Winch, 1993). Such learning-oriented CAV models critically:

- improve learning of the system as an holistic entity
- improve effective communication among key-actors;
- identify policy levers and evaluate possible different effects in the short and long term;
- improve the key-actors continual experimentation;

- improve an inter-functional approach to management problems. This benefit is very important also in a small firm, although its organization structure is usually very simple, as it allows an entrepreneur who is oriented towards one function to perceive implications for other sub-systems;
- provide a flexible user interface; possibly as easily modified so-called '*microworlds*'.

Achieving a common shared view is not a symptom of conformism (i.e. forcing people to adopt a common vision); it is instead, a result of a learning process, which stems from the comparison and coherent combination of the variety of frames through which things are implicitly or explicitly perceived. Making mental models explicit and sharing them in an organization is not an end *per se*; it is, rather, a means through which people are helped to raise proper questions on relevant business issues (Forrester 1968; Morecroft, 1994; Vennix, 1996). The main concern of learning in and about complex systems is not simply to find the right solutions to problems, but instead to understand their deep causes (Serman, 1994). Fundamentally, learning should not be conceived as a contingent or discrete process, but instead as a continuous one.

6. Concluding remarks and implications for future research

This paper has identified an apparently well-known but nevertheless critical deficiency in business planning in smaller enterprises. Such firms frequently prepare formal business plans for the purpose of gaining funds, either as commercial loans or through a variety of governmental or charity grants. However, there is no guarantee that formal plans prepared to meet the needs and criteria of a funding body actually assist the entrepreneur in understanding the dynamics of his/her firm. Anecdotal evidence from preliminary fieldwork confirms that such entrepreneurs are likely to have separate ideas, mental models, or even formal plans that serve the operational needs of the firm, and that these may be different in significant ways from any plans submitted to outside agencies. There appears therefore to be a potentially dangerous conflict in that no single, agreed vision of the firm and its future is available to the internal and external stakeholders in the firm.

The analysis in this paper has investigated the critical issues in business planning in smaller firms, and the role and expectations of key actors in the funding of them in relation to these plans. In considering the various modeling approaches to support the planning process a rationale has been offered for adding dynamic modeling -- specifically via system dynamics -- to this process in order to bridge the gap between internal plans and plans developed with, or delivered to, the external actors. In a preliminary way, fieldwork has also confirmed the potential acceptability and desirability of this addition. The entrepreneurs interviewed frequently acknowledged that they did not always fully comprehend the dynamic consequences of their plans and that they would welcome support in improving this. There was also a feeling expressed that greater professionalism and rigor in planning process, both on the part of entrepreneurs and their advisers, would be beneficial to all.

It is recognized that system dynamics has probably not impacted on smaller firms to the extent that it has with major corporations. This is most likely to be due to its sheer cost and time requirements not matching the benefits to the smaller firm. However, consortium arrangements and use of generic models may ease this constraint. Research is now advancing through a consortium comprising the lead researchers based in Sicily, Italy, and the Southwest peninsular of England, agencies that fund and support small firm start-up and development, and entrepreneurs and small enterprises themselves. It is anticipated that there will be an orientation, at least in the early stages, towards organizations that are characteristic of the two regions identified. These both have relatively low economic bases, and owing to their locations at the periphery of the European Union experience common problems of logistics and dying traditional industries. They consequently have a specific emphasis on wealth- and job-creation through small firm development. The research is targeted towards the development of a practical integrated planning/learning process for smaller firms, and has two related foci:

1. The development, refinement and validation of the taxonomy for system dynamics interventions in smaller firms.
2. The creation of software that can combining formal business planning with operation planning and learning. In this second objective, design criteria for the software recognize the inherent problems of cost and engagement of entrepreneurs in the planning process, particularly where quantitative analysis and modeling is involved. The specification therefore is for software that is very easy and attractive to use, and that can easily and quickly calibrate basic planning model structures to the individual firm. It is envisaged that a computer-aided visioning tool comprising and interrogatory interface linked to a dynamic model with a flight simulator-type working space will provide just such a vehicle for this process.

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THE MARKETS OF THE EUROPEAN UNION AS AN OPPORTUNITY FOR DEVELOPMENT. EMPIRICAL RESULTS OF STRATEGIC MARKETING ASSIMILATION BEHAVIOUR OF SMALL AND MEDIUM-SIZED ENTERPRISES IN GERMANY

Cornelia Zanger

Abstract

The development of the EU single-market and the resulting altered conditions create incentives for an increased foreign commitment. That is the hypothesis on which, the strategic assimilation behaviour of German SMEs to the EU market should be investigated.

The market assimilation of SMEs is fixed on the institutional design of cross-border commitment. This contribution to the strategic market assimilation behaviour of German SMEs in European key-markets is an assortment of empirical findings of a research project completed at the start of 1999 under the influence of the harmonisation of EU markets.

1. Introduction

The harmonisation of the EU-markets is occurring progressively on the threshold of the new millenium. The breaking down of technological, physical, and fiscal barriers of the EU single market and the establishment of economical and monetary union within the EU should dissolve rigid structures and create improved possibilities for active participation in international economic life.

The development of opportunities, as a consequence of economic and monetary union in the EU member states, are seen as a possibility not only for large enterprises but also for small and in particular, medium-sized enterprises (Cecchini, 1988). SMEs in Germany are of a substantial interest for the development of economic location as much for their contribution to the single-market as for their foreign activities. The development of the EU single-market and the resulting altered conditions create incentives for an increased foreign commitment. That is the hypothesis on which, the strategic assimilation behaviour of German SMEs to the EU market should be investigated.

Therefore, market assimilation means to some, the decision of a company to enter the market for the first time. To others it also means that a company has to decide to commit themselves more or less firmly or to keep their preferred strategy. The market assimilation of SMEs is fixed on the institutional design of cross-border commitment. Each of the forms of market assimilation commences through indirect export more than direct export with or without self-representation to direct investment on the foreign market e.g. through the formation of marketing companies and/or production companies, various efficiencies of the SMEs commitment are implied on the EU market. Also contributing to the strategic market assimilation behaviour of German SMEs in European key-markets are an assortment of empirical findings of a research project completed at the start of 1999 under the influence of the harmonisation of EU markets. In this context, the EU key-market is understood to be a foreign

market within the EU single market, on which the company plans and realises the largest proportional foreign turnover.

2. Development of the Research Design

2.1 Theoretical Basis

A current empirical analysis of the process of globalisation of SMEs confirms an increasing strategic orientation of companies towards foreign involvement (STRATOS, 1990). Direct export gains some ground despite the importance of indirect export through suppliers of large companies. Types of institutional assimilation with direct foreign investment are less often chosen. It is evident from this study that narrow boundaries exist for the readiness of SMEs for foreign involvement, which intensify problems such as market power disadvantages of SMEs, financial bottlenecks, insufficient knowledge of foreign markets and consumer buying behaviour, custom and trade barriers transport and transaction costs, monetary risks, legal barriers (taxation law, corporate law, norms and standards) as well as deficits in the strategic preparation of foreign activities (Pleitner, 1995). At a glance, the development of the EU market raises the question -- what influence do the altered conditions share on the breaking down of structural problems and consequently, how do they change the institutional market assimilation of SMEs?

In order to conceptualise the correlation between the development of the of the EU single-market and the institutional market assimilation of medium-sized enterprises, two theoretical approaches were resorted to in order to explain globalisation by simultaneous considerations of the various types of market entry. Therefore, it was concerned on one hand with the ad-hoc approach, and on the other with the model of the phases of globalisation (Aharoni, 1966; Ginsberg & Venkatraman, 1985; Young et al., 1987; Johanson & Vahlne, 1977 and 1990).

The terms of reference of the ad-hoc approach are to design alternative processes and structures, to bring them together in one design and to choose one from the abundance of logical, sensible alternatives, of which some are more successful than others under specific conditions (Staehele, 1976).

This static approach is highly appropriate to demonstrate the relationship between companies and environment. Thus, a direct connection between the concrete environmental situation in EU key markets and various types of institutional market assimilation can be investigated. This approach moreover enables the behavioral perspective to be integrated into the analysis. Via the intervening variables, subjective influential factors are considered. A disadvantage of the ad-hoc approach lies in the limited informative value of this model. It is necessary to concentrate on important factors because this model can only cope with a limited number of independent variables. Concerning the subjectivity of selecting relevant variables, it is difficult to find the appropriate filter (Schreyoegg & Steinmann, 1985). In the context of the behavioral analysis, the problems are selecting relevant elements of typical decision-making.

Starting from the assumption that companies pass through several phases of institutional market assimilation during their foreign involvement, a dynamic approach was developed which starts with the exact same behavioral research perspective in opposition to the static contingency approaches (Cyert & March, 1963; Aharoni, 1966). It's aim, to discover and describe typical and sequential stages of globalisation.

Out of the three basic models chosen to describe the phases of globalisation, the Global- Process Model (Johanson & Wiedersheim-Paul, 1975; Johanson & Vahlne, 1977), the Step-by-Step Model of the Degree of Globalisation (Meissner & Gerber, 1980) and the Innovative Adaptation Model (Rogers, 1962; Bilkey & Tassar, 1977), the Globalisation Process Model was chosen as the appropriate theoretical approach for this study.

The Globalisation Model of the Uppsala School depended on the premise that the globalisation of enterprises can be interpreted as a process of gradually increasing foreign involvement (Johanson & Wiedersheim-Paul, 1975; Johanson & Vahlne 1977). Dependence on temporal awareness, which a company has at its disposal, are decisions about the use of resources and therefore about which exceeded the activities, which lead to an optimal allocation of resources on a foreign market. The companies little by little find their feet in foreign markets, by which the type of institutional market assimilation depending on resulting economic risks was carried out. The differentiation in several phases of institutional market assimilation is the consequence of greater uncertainty, of the higher information ordering costs as much as the lack of expert knowledge about foreign activities.

In particular, four phases are described which are connected with increasing allocation of resources. Irregular export activities, export activities through agents, sales and production companies come immediately after.

On the whole, the approach shows a dynamic contemplation with the aim of finding, through strategic patterns of behaviour, a possible and useful theoretical basis for the analysis of institutional market behaviour in foreign markets.

The share of the previous empirical investigation, which set out in full the theoretical explanatory approaches of a confrontation with reality, is still relatively low. The obtained empirical results are furthermore controversial. Against this background exists a surprising interest to explore the institutional market assimilation behaviour of German SMEs in the European key markets, under the premise of altered conditions.

2.2 Terms of Reference of the Empirical Study

Starting at the beginning of this described situation, a two phase study was developed, based on the chosen theoretical approach that it is economically innovative and that it connects a static description of the institutional market assimilation with a dynamic perspective of the development explanation. Therefore two steps were taken.

In the *first stage*, typical patterns of globalisation of SMEs in EU key markets are identified. Globalisation tables show how often a certain institutional market assimilation has been chosen as a starting point for the transformation to another type during the first phase of EU harmonisation (1987-1991 and 1992-1996) and which institutional market assimilation is aimed at for the second phase of EU harmonisation (1997-2000). The first stage realises the *dynamic point of view*. This basic design of relevant forms of institutional (cf. Fig. 1 -- omitted) was used as a starting point. This basic design was the result of a pilot study of German SMEs concerned with the EU market.

In the *second phase*, the three strategic types are then identified with relation to differential market assimilation behaviour and then described as internal and external business factors. This static perspective describes the desired status of an SMEs market assimilation from 1992 until 1996. Within the description of the connection between market assimilation strategies and external influential factors, the basic conditions in EU key markets are the centre of attention. The internal potential for success is investigated by the internal impact factors.

The summary of both research perspectives leads to the study's conceptual frame of references shown in Fig. 2 (omitted).

2.3 Description of the Random Survey

In order to collect relevant data, one written survey focused on SMEs within the processing industry. At a glance, the underlying aim of the research was above all to do an additional delimitation. It was concerned with the indication of the specific characteristics of medium-sized enterprises of the companies surveyed.

Under this premise, in the spring of 1998 a random survey of 1500 SMEs was taken from the the database of the Chamber of Industry and Commerce. The random survey, in this respect determined that the medium sized enterprises would have a maximum turnover of 100 million DM, a maximum of 500 employees and have products distributed on the EU key markets.

For the identification of types of institutional market assimilation, a survey was designed which had as an objective the features of a corporate structure, the choice of the type of market assimilation over a period of time respective of the determination of trend statements of the relevant aims of market assimilation, risk estimations, as well as readiness for success of the companies involved. After the distribution of the questionnaires, 185 replies were recorded (response rate 12.3%). After close examination of completeness and consistencies, 128 questionnaires were included in the empirical analysis.

As to the distribution of the companies surveyed, the EU markets of France, the Netherlands, Great Britain and Austria were identified as the most important *foreign* markets (within the harmonised EU single-market) to realise the largest proportional share of foreign turnover of medium-sized enterprises. In order to be able to carry out a meaningful analysis of readiness of market assimilation behaviour of SMEs, they were also divided into sectors and size. Although the random survey contained a higher share of mechanical engineering and vehicle construction companies, the companies of the food industry were under-represented. Therefore, the survey contained a good share of the sectors surveyed.

In the investigations about the global behaviour of SMEs, the size of the company is an important variable. The company's size can be indicative of the scope of the disposition of existing resources which can be closely connected to a company's passive strategic means of behaviour. Fig. 3 (omitted) shows the survey of typical medium-sized enterprises.

In the phase models of international economic activity, international experience is regarded as a central determining factor of foreign involvement. The degree of globalisation was chosen as a suitable variable for indication of foreign experience of medium-sized companies (Engelhard & Eckert, 1994). The degree of globalisation was on one hand gauged by the proportion of turnover in the EU key markets to the total turnover.

The proportion of turnover serves as an indicator to be able to account for the relative scale of which the surveyed enterprises in EU key markets are involved. It turned out here that approximately one-third of companies are under the 20% of the share of foreign turnover, approximately one-third to a half of companies are setting up their business abroad. Of the remaining third, over 50% of their business is realised abroad.

As next it shows that the EU key markets are primarily very relevant trading areas outside of domestic markets. On the whole, it is expected that the altered conditions are seen as an opportunity on the part of the medium-sized enterprises. The development of the European single-market and the resulting altered conditions of the economies create incentives for an increased foreign involvement of medium-sized enterprises.

3. Selected Results of the Empirical Study

3.1 Patterns of Globalisation and Types of Strategic Market Assimilation

The aim of the investigation was first of all to identify the basic conditions of the typical phases of globalisation of German SMEs in EU key markets. In order to clarify the market assimilation behaviour, medium-sized enterprises choice of market assimilation types in EU key markets were surveyed for the periods 1987-1991 and 1992-1996.

The companies' details were recorded in globalisation tables, how often a certain type of market assimilation (vertical reference) was chosen as a starting point for a transformation to another type (horizontal reference). The types of market assimilation would be thus simplified and sorted out according to their typical idea of efficiency of the shifting of company resources in foreign markets.

The empirical results indicate the typical phases of globalisation. The first comparison (1987-1991 and 1992-1996) recorder the changes of the strategic behaviour of SMEs in the initial phase of the EU singlemarket (cf. Fig.4 -- omitted). It is obvious that many of the businesses surveyed regarded the EU single-market's coming into practice by law as an opportunity. On the whole 30 business have recently entered the EU-market, 15 using direct export without self-representation, 14 using direct export with self-representation and one as a production company. A further 27 companies surveyed increased their existing involvement on the EU market in this phase through institutional market assimilation by going from indirect export to direct export without and with self-representation (a total of 6 companies), from direct export without self-representation to export with self-representation (8 companies) and from direct export with self-representation to marketing companies (10 companies).

In order to identify the market assimilation behaviour in the second phase of EU harmonisation, the SMEs were surveyed about a predetermined choice of market assimilation type in EU key markets in the period 1997-2000 (cf. Fig.5 -- omitted).

As the first phase of EU harmonisation was primarily dominated by the entrance of certain types of exports, the second phase until 2000 is characterised by intensive forms of foreign involvement which use intensive types of capital commitment. Also in the second phase, further typical patterns of globalisation were evident. Six companies changed from direct export without self-representation to direct export with self-representation (column 3). Another six companies changed form direct export with self-representation to a marketing company (column 4) and one company will build a production company alongside a marketing company.

The empirical investigated patterns of globalisation of SMEs in EU key markets confirm the estimated connection of the original hypothesis between the more attractive conditions in the EU with the SME readiness for involvement. If one examines the survey more closely, according to the statement that typical patterns of globalisation exist, it is only true for a part of the random survey.

On the whole, the random survey shows a different market assimilation behaviour of SMEs. It is obvious that the SMEs institutional market assimilation behaviour and increased market awareness do not necessarily lead to a type of larger capital commitment and increased use of resources, in contrast to what Johanson & Vahlne claim about large companies (Johanson & Vahlne, 1990).

In spite of favourable conditions for economic activity on the EU market, numerous businesses remain at the desired level of foreign activity. Likewise companies exist which do not in fact withdraw from the EU market but instead withdraw their involvement by institutional means with the lowest economical risks (from production and marketing companies to direct export).

All in all, from the empirical results, one can differentiate between the three different *SME strategy types with regards to institutional market assimilation* (as documented in Fig. 4 and Fig. 5):

Type 1 Strategy of Active EU Market Assimilation

SMEs which belong to this type intensify their foreign involvement and change from a less intensively connected type to an institutional type, which leads to a closer economic connection with EU key markets. In the first phase (1987-1991 and 1992-1996) there are a total of 57 businesses i.e. 45%. In the second phase (1992-1996 and 1997-2000) thirteen enterprises followed a strategy of market assimilation i. e. further 10%.

The active companies are above all involved in mechanical engineering, metal processing, textile and food industries. The turnover and the number of employees lie comfortably over the survey's average. The comparison between the exact times of the survey results in an increase in turnover.

Type 2 Strategy of Passive Market Assimilation

In this group are SMEs which retain their already chosen type, despite altered conditions in the EU market. The forms are able to exist with the least economical connection such as export without self-representation or intensive economic and resources connection as well as subsidiary companies and export with representation. In total 56 companies of the study are found in this type i.e. 43%. In the second phase, 114 want to keep their previous form of EU involvement i. e. 89%. The particularly important types of exports, however, are also subsidiary companies with the highest efficient commitment. In the first phase, companies in this group are above all from the wood and chemical industries as well as in mechanical engineering. In the second phase, all sectors take part in an average random survey. The growth of sales stagnates but for a few exceptions.

Type 3 Strategy of Defensive Market Assimilation

The companies which belong to this type use withdrawal strategy. The surveyed companies mostly had secured no general plan of retreat from the EU market apart from a retreat from high capital, high-risk institutional forms of export. In the first phase, 15 of such companies could be found i.e. 12%. In the second phase, one. Such companies are found in the electronics industry and particularly in synthetics and glass. In comparison to the average of the survey, many more small companies (concerned with the number of employees and sales) are found within this type.

3.2 Characteristics of Strategy Types

On the basis of the theoretical entry conditions, the empirically investigated details of SMEs should be used, in order to characterise more easily the three identified strategy types, with regards to market assimilation behaviour. It presents itself as a discussion about the ad-hoc approach in section 2.1 of one particular problem, concentrating on a few necessary important factors. In the following, significant results about internal and external factors are represented which describe the three different types of strategy.

In the domain of *internal factors, business potential* was first of all examined. Figure 6 (omitted) shows that for this type of the active market assimilation, internal conditions have to be available. For the SMEs of the survey, company size and cost advantages are most important as to how they increase the SMEs turnover. Know-how advantages, flexibility and the possibility of raising personal capital are factors which could yield more internal potential for companies, who keep their strategy while not seeing any particular expectant opportunity. Increasing company awareness and a good knowledge of foreign languages and countries are positively assessed. Type 3 judge their own potential and their present development negatively. In particular, the size and level of costs of the company will be seen as problematic for foreign involvement.

The assessment of the *internal product potential*, divided according to the 3 strategy types (see Fig.7 -- omitted) is similarly shown. Companies of this type are aware of quality and price advantages just as much as cost advantages of competition, which creates a strengthened EU-involvement. Product image and innovation capability are assessed equally with regards to profit. Companies which retain their type of market assimilation fear losing above all cost and price advantages on the EU market. SMEs which reduce their involvement, see their competitiveness threatened with regards to cost and quality. It is noticeable that the surveyed companies, independent of concrete market behaviour see the competitive advantages of the EU market in an innovative way.

Reflection of the *external factors* provides an interesting insight into the description of the three identified strategy types. Fig.8 (omitted) presents survey results with regards to *customer-related market conditions*. A complete positive market appraisal is typical for the group of companies which want to intensify their foreign involvement. The developing EU market is seen as an opportunity. The development of purchasing power, quality awareness, brand and price awareness as well as the acceptance of German products, are seen as signs which contribute to favourable economic expectations, for an increased EU involvement. In comparison, the group of passive businesses only consider the increasing quality awareness and the connected price acceptance as positive market signals. Companies intending to withdraw, see different problematic situations. In particular, increasing brand awareness and high technological claims are seen as problems in the EU key-markets.

In Figure 9 (omitted), the results of the survey can be regarded as a surprising influence of the altered *political-legal conditions*. None of the three strategy types see any institutional market assimilation behaviour as supportive in this domain. The taxation law is seen in particular as a hindrance for increased foreign involvement.

In figure 10 (omitted), the empirical results are outlined as follows. The group of companies actively involved discover, above all the favourable possibility of raising personal capital as a type of available direct investment on the EU market. The possibility of development of distribution channels is just as positively assessed as suppliers and personnel potential, as well as traffic and information technology infrastructure in EU key markets. The SMEs which keep up their foreign involvement see the traffic and information-technology infrastructure as attractive factors of the EU key markets. Even the companies which have a definite start assess these factors positively, which allow only one condition, that internal problematic situations which could lead to the restriction of these companies' foreign involvement are of prime importance.

4. Conclusion

The altered conditions in the European context are generally not seen as opportunities on the part of medium-sized enterprises. The development of the EU single market and the resulting altered conditions of the economies, which lead to a reduction of the resulting feelings of insecurity regarding the specific EU key markets, create incentives for *a group of German SMEs* of increased activity on EU key markets. In the first phase 45% of these companies surveyed are in the second phase a further 10% SMEs. Besides the external conditions, internal chances of success are above all here the decisive factor for an increased involvement.

A second group keep their chosen market assimilation strategy even for altered conditions on EU key markets. In the first phase, are such 43% and in the second phase, it accounts partly for a very high level of involvement of 89% of the companies.

A third group withdrew from the EU market, due mostly to internal problems. This was 12% of the surveyed SMEs in the first phase. Only one company planned to leave the market before the year 2000.

In conclusion, it remains true that German SMEs will react to EU harmonisation. The first phase of EU harmonisation (1992-1996) was mostly dominated by the entry by means of exports. The second phase until 2000, is characterised by the details being recorded of SMEs which use intensive types of capital commitment, particularly marketing companies. Apart from external conditions and developments on the EU market, which will be seen as opportunities on the part of the companies, however the build-up of internal chances of success will be seen as quite a significant condition for the success of SMEs on foreign markets.

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THE ROLE OF INNOVATION CENTRES AS SUPPORT TO SMALL AND MEDIUM ENTERPRISES. THE ITALIAN CASE

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Abstract

The innovative potential of SMEs that is able to influence economic development is now well-known; however, it must be exploited with the support of specific policies, both local and global ones. The aim of this work is to analyse the role carried out by one of the more specific and relatively recent back-up tools used by the local support policies for the development of the SMEs: that of innovation centres; among them have been considered only those organisations, belonging or not to industrial district, offering technological services to firms. By means of an empirical survey the analysis has been focused on finding out "who does what", determining the number of the innovation centres presently really operative in Italy, their locations and field of action, real and institutional, and the characteristics of the services being offered.

On these basis the questions we have tried to find answers are fundamentally two: what is and what has been the real impact of the innovation centres on the Italian production system of SMEs; which should be their future guidelines, considering the results obtained up to now and the kind of reality and problem which the innovation centres have been confronted with.

1. Introduction

Entrepreneurs, and not only them, are increasingly aware of the fact that innovation, in particular if technological, is today synonymous of greater competition and therefore of success for the firm that is implementing it and consequently for the country it belongs to. The last two decades have witnessed a strengthening awareness that, particularly in European countries, the SMEs' contribution to production, consumption and transferral of technological innovation is considerable, and is now a structural element in the current competitive system: in fact in Europe, according to EC sources, there are around 2,000,000 SMEs (a quarter of which are in Italy), of these, only 1-2% are strictly producers of technological innovation, but a considerable 85% are buyers/users of technology to varying degrees and 10-15% are users that, fully understanding its potential, would like to produce it internally, but do not have the sufficient skills and resources to do so. It has furthermore been proved that in the area of technological innovation support, each Euro invested by a SME generates two or three times more innovation than that obtained by the average of larger firms that make the same investments: the public investor has therefore a greater interest in supporting SMEs in that its efforts turn out to be more productive. To prove this the various European support programs have increasingly borne in mind the innovation potential present in the SMEs, paying them greater attention, to the extent that the last V table program, allocates funds for innovation projects to the sum of 363 million Euros (only as far as the horizontal program is concerned). Moreover, all thematic programs allocate 10% of their budget to programs presented by the SMEs, for a further sum of 1.2 billion Euros.

However, the role of SMEs in giving growth to the economy has been understood, at the same time or before, by many national governments that have slowly set up various operative policies to implement this role with practical actions and tools. They are aware of the fact that the SMEs, despite having great potential and flexibility, are still subject to extensive limitations in terms of resources: in fact, their size is not often able to sustain and reach the limit threshold so that a certain service or research project or any other factor not directly linked to the productive phase, can be faced within the firm itself.

The aim of this work is to analyse the role carried out by one of the more specific and relatively recent back-up tools used by the local support policies for the development of the SMEs: that of innovation centres.

2. Local policies for innovation: main typologies

Innovation policies normally possess a range of operative tools that are basically reduced compared with the variety of facilities offered by other types of policies; these instruments can be defined in the following two ways: *a)* financial incentives (such as contributions in capital accounts and interests, financing at concession rates, guarantee concessions, etc) or tax incentives, linked to economic policies that directly support SMEs; *b)* the creation of structures/infrastructures for assistance and technological transferral to the SMEs, first and foremost to technological and scientific parks and innovation service centres, linked, in an optimal situation, to research and university centres.

The first type of tools are more traditional, and always turn out to be less effective if used alone, especially in a context of growing globalisation, despite maintaining a degree of validity if used along with other types of intervention. Tax incentives prove to be of a more uncertain nature, and anyway delayed, in that they are dependant on profit level, whereas the lost contributions or those at special rates in other countries are increasingly being replaced by accelerated depreciation mechanisms, profit and cost de-rating of R&D and the increase in research expenses in the production cost breakdown (Airi, 1991).

Furthermore, the traditional tools turn out to be lacking in the ability to fulfil the growing needs of the SMEs, especially in terms of direct and practical support in the execution of innovative projects, availability of information, recruitment and training of specialised staff, suitability and exploitation of the results of innovative activities (patents, trademarks), etc.

Other industrialised countries, in particular France, the United Kingdom, and Germany (Cnel-Ceris, 1997) have already acknowledged these lacks, developing policies for technological innovations, both on a global and local scale, using especially tools geared towards improving the links between firms and research and to create that cultural substrata that is fundamental for the growth of an entrepreneurship based on technological innovation. Among these tools, a key role is played by an effective network of service centres, development agencies and technological parks, suitably linked to local public or private bodies, providing a real support to the innovation needs of the SMEs.

An attempt at making an initial evaluation of this type of policy tool for innovation was thought to be interesting, even with reference to the Italian context. The main objective of these technological centres is usually the diffusion at a local level, especially between the SMEs, of technologies that have already been developed at private or public research centres, with the main function of promotion and interfacing among firms, public bodies and research and/or training institutes, wherever possible with financial support incentives.

In Italy the assessment of the role of innovation centres as a support to SMEs is still a relatively unexplored field. A recent example can be found in centres in Lombardy, where an attempt was made to assess the work by CESPRI (Lissoni, 1998): this study showed how there are still large conceptual problems, not only with reference to the methodologies to be followed in the collection of data and their measurements, but above all in the choice of assessment criteria and, even before this, what should be assessed.

The assessment of specific programs carried out by local bodies now includes a great number of case studies, partly due to the diffusion of European financing, where there are no significant differences between innovation support interventions and other actions.

The methodologies used (cost-benefit analysis, econometric models, various analyses of a micro-economic nature within which tools such as questionnaires and interviews are used) are therefore very similar (IRES, 1996). These types of tools can also be used in the case of specific structures for the diffusion of innovation, such as service centres, whenever however there is a limited number of them, and it is thus possible to carry out direct surveys with the current and potential users of the structures, consequently bringing about a real analysis of the impact deriving from their activities (Cariola, Rolfo, 1999). Examples of this type have been carried out in the case of technological transferral agencies in Berlin (Pfirrmann and Schroeder, 1995) and for the above mentioned centres in Lombardy by Cespri.

However, whenever there is a higher number of structures, as in the case dealt with here, regarding the whole area of innovation centres in Italy, any analysis must be based on objective indicators collected from the structures themselves by means of questionnaires sent by post and not so much on the final user. Even if it is a briefer way, it is anyway an assessment comparable with the monitoring systems quoted by Ciravegna (1994), aimed basically at measuring internal effectiveness seen as a relationship between the expected results and those actually obtained: by means of the use of certain suitably chosen parameters, an attempt has been made to measure the extent of the activities carried out by the centres (number and location of the client firms, type of service supplied) and their performances especially in terms of self-financing (revenues, performance and contributions). Particular attention must be taken during the classification of the examined structures in order to create categories that are sufficiently homogenous and to overcome the fact that there are many structures that seem to be similar, but that are in effect different with regards to tasks, size and activities (Cariola, Rolfo, 1999).

In Europe, the most interesting case that followed this type of assessment methodology is represented by the study carried out by the French Committee for research assessment into about 120 CRITTs (Centres Regionaux de Transfert de Technologie) operating in France (Cner, 1997). This work follows the approach adopted by the French study.

3. The Italian system of Innovation centres for firms: an empirical analysis

In order to attempt a first evaluation of the role and the real impact of innovation centres in supporting the development of the small and medium Italian enterprises, has been made a re-organisation of the subject in terms of "who does what", according to a quality-quantity analysis of the structure of services offered, moreover examining how many centres are in effect operating nowadays throughout the national territory, their positioning and their actual range of action, as well as their institutional one (Cariola, 1997).

In the early 80's, an increasing "regionalization" of the technology policy and a tangible need for evolution, especially from the technological point of view, of the typical Italian system of small and medium-sized enterprises, induced public and private subjects to begin new initiatives for the creation of innovation centres for firms. In this paper have been studied only those centres (private, state or mixed), belonging or not to industrial districts, that offer at least to some extent services of a technological nature (Cnel-Ceris 1997b): this, in fact, is thought to be a determining and discriminating factor for the success of innovation centres in terms of a real contribution to the development of an industrial system. Carrying out a census of the existing innovation centres in operation in Italy in 1996 by means of a direct survey, it was possible to compile a list of 161 operating structures compared to 75 listed in 1988 in a previous study conducted by Nomisma (Nomisma 1988).

The various organisations have been classified (table 1) on the basis of the range of action on the territory and the varying degree of strength of the link with afferent districts: with reference to each Italian region, an initial distinction has been made between:

- *Local innovation centres afferent to districts and comparable entities*, sectorial or plurisectorial, mainly promoted by individual regions in collaboration with the local productive realities of a district nature: 42 have been identified, all of them located in the Centre-North, primarily in Lombardy, Emilia Romagna and Tuscany;
- *Local innovation centres placed out of the districts*; Regional Agencies and research centres working in computer technologies, born in the South during the special IATIN project (no.35 ex law 183/76), a lower number of sectorial centres; 38 have been identified, uniformly distributed with a slight increase in the Centre-North Italy, especially in Veneto and Tuscany;
- *Innovation Centres afferent to organisations with a wider range of territory and/or of beneficiary productive sector*: BIC-Business Innovation Centres, CISI-Entrepreneurial Integrated Development Centres, other similar organizations; these initiatives were started up by the EU in the early 80's to support entrepreneurship and innovation, both for new and existing activities, with the broader view to their integration in a European context. This study has identified 35, distributed fairly uniformly throughout Italy, unless in 3 small region;
- *Parks or Technological Poles, Research Areas*: often arisen in abandoned or in industrial decline areas, to activate the training mechanisms of external economies and entrepreneurship in the area, especially with three types of interventions: physical-logistical services, office services and company consulting: 23 have been identified; many are still being set up, (especially as incubators of new firms) and were not considered in that not yet operative.
- *Other institutions*: 8 Ministry of Industry Experimental Stations, some structures not classifiable in the other typologies and the Research-City Consortiums set up by the IRI (Institute for the Industrial Reconstruction) with conventions among the CNR and various Italian Universities in order to bring the scientific world closer to the industrial one: a total of 23 structures located especially in Lombardy, Veneto and, for the South, in Campania.

In this classification, only the first two groups corresponding to 80 centres, 42 within the districts and 38 out of them, supply to varying degrees the real technological services, thus around 50% of the total. Moreover, if it is considered that many of them have anyway a relatively minor activity in terms of the number of activities offered and/or customers served, also because often they are only at the beginning of their activity or reaching the end, it is difficult to make a comparison with the situation across the border (for example 1,036 technological innovation centres counted in Germany in 1996 by Reinhard and Schmalholz). However, it is true that there are other structures that are fully operative and efficient, especially in the areas with a greater district tradition, such as Lombardy, Piedmont, Marche and Veneto, or with a greater state regional intervention such as Emilia Romagna

and Tuscany. However, their success must be attributed above all to the wealth and vitality of the productive structure of those regions rather than to successful innovation policies.

Table 1: Supply of services for innovation in Italy

	Innovation Centres					
Region	Districts	Out	Bic Cisi	Parks and Poles	Others(*)	Total
Valle d'Aosta	-	1	-	-	-	1
Piedmont	4	-	1	4	1	10
Liguria	-	1	1	1	1	4
Lombardy	11	4	3	1	7	26
Veneto	3	6	2	1	4	16
Trentino A.A.	-	-	-	1	-	1
Friuli V. G.	1	2	2	1	-	6
Emilia-Romagna	7	4	4	2	2	19
Tuscany	11	5	2	-	2	20
Marche	4	1	3	1	-	9
Umbria	-	1	1	1	-	3
Lazio	1	1	1	1	1	5
Molise	-	1	1	-	-	2
Abruzzo	-	1	3	1	-	5
Campania	-	4	3	2	1	10
Puglie	-	2	3	2	-	7
Basilicata	-	-	-	1	-	1
Calabria	-	2	1	1	1	5
Sicily	-	1	3	1	1	6
Sardinia	-	1	1	1	2	5
Total	42	38	35	23	23	161

(*) City Research Consortiums, Ministry of Industry Experimental Stations and Structures not assigned to the other typologies are included. Source: Ceris-CNR In the South there are few recent districts without innovation centres and 12 external centres of a transversal type, that tend to take on the functions of development agencies. Instead the presence of BIC, CISI and Parks can be compared to the Centre-North. Of the 23 Italian scientific and technological parks, only few are fully operative as they are often recent and designed to act primarily as "incubators" of new firms: a similar situation occurs, especially in the South, with reference to BIC and CISIs, therefore these structures cannot be compared with the 37 French *technopoles* or 44 English parks.

4. The innovation centres for the firms: features and typology of services

Always for understanding the role of innovation centres in helping the development of small and medium enterprises, the attention has been focused on the type of services offered and, above all, whether they are of a technological nature or not. Infact in the examined centres as well as in literature, when there is a real supply of technological services, a two-way synergy is created between the service structure and the benefited area so that the development of one corresponds to the development of the other and vice versa, following a growth spiral. In general, each structure states, at least on paper and in their intentions, that it offers a vast range of services that are, only apparently, very articulated: in fact, in our opinion and with regards to those of a *technological nature*, they can be traced back to six categories:

- *Quality and certification*: services aimed at obtaining the certification of products, firms or tools, both directly and indirectly; management of firm quality, of product and process and not merely with the function of informing.
- *Projects and development*: planning of pilot systems directly carried out by the centre with or without the participation of firms, a direct support for technical-economic feasibility studies and the transferral of technology from and towards the firm itself. Make computer and technological back-up available for the firms (e.g. CAD-CAM workstations).
- *Tests/analysis Laboratories*: services that can more or less result in a real certification.
- *Technological training*: the activities of preparation, promotion, organisation and finally practical execution, at the centres or the firms, of training courses on technological subjects; technical *stages* at the firms, on the request of the firms or proposed by the centres.
- *Technological information*: activities linked to the diffusion of information of a technological nature, including publications, newsletters and all promotional initiatives aimed at favouring technological transferral from and towards the firms and the diffusion of information about EU or national financing programmes; direct contacts with or without counter or by telephone; use of data banks and organisation of conferences and workshops.
- *Other technological services*: for example participation in the availability and bureaucratic procedure of national or community technical norms, assistance for the obtaining of brands and patents, handling of relations with Universities, research Centres, controlling Authorities.
- *Services that can be classified as non-technological*: for example consulting on the subject of administration, finance, marketing, contracts, internationalisation and company organisation, both in the *start-up* phase and ordinary management, training and information activities of a non-technological nature, information on legislation in support of entrepreneurship, assistance on the subject of environmental control, hygiene and work safety, market studies and research. Moreover in this category are considered incubator logistic functions of new firms, typical of parks and technological poles and the so-called "new firm points" as a global support of aspiring entrepreneurs, usually supplied by many BIC-CISIs or special firms from the Chambers of Commerce.

4.1 Catchment Areas and Typology of Services in "Group A"

The decision was made to group together both the local innovation centres within the districts and outside them (columns 1 and 2 of table 1) defining them as "group A" (table 2) in that, in terms of an internal organisation, the catchment area and typology structure of the services offered are not so different; the main difference is the variety of the productive sectors under their competence: very often for the former it is monosectorial whereas for the latter it is more often plurisectorial. The centres of this group, except for few already existing cases, were almost all set up starting from the early 80's and around 30% later on in 1988.

The local and regional catchment areas are the main ones, also if, there does not seem to be a direct correlation between the localisation in a district and its territorial range of action: instead it must be found in the relation between public and/or private contributions that the centre can count on and the degree of self-financing deriving from the sale of its services: the more external contributions there are, therefore the less effort required for financing and marketing, the more likely it is to find the services concentrated in a local, district or regional context. When the centre makes a greater effort to be self-financing, it tries to widen its range of action of the sales of its services to the firms, sometimes entering in competition with similar centres in other districts or regions. This is a common trend in that many centres, set up and financed by regions under the protection of regional, or at least state finance companies, are now being slowly pushed to comparing themselves with the market, both for industrial policy reasons and for financial problems (a significant case is that of Marche's Regional Investment Company). Moreover, it happens that innovation centres that are not sufficiently competitive are absorbed by other, more efficient ones, even in other regions. Apart from some border-line cases, competition on a territorial scale is usually positive, in that it encourages them to widen their range of action.

What has been stated above is especially true in the Centre-North of Italy. On the other hand, the few centres in the South belonging to "group A" are not linked to districts and are obliged to have a regional competence or one for the South of Italy, never solely local. This is probably in order to overcome the minimum threshold of the catchment area.

The *type of services offered* by group A (table 2) are mainly *technological information* (84.2%) and *training* (82.9%), in that they are basic services for the diffusion of innovation in firms, part of the statutory tasks of almost all the centres, and require a minimum structure and permanent members of staff, with use of external consultants. Training courses are carried out by the centres themselves or, more often, in collaboration with established authorities (Chambers of Commerce, Industrial or Categories Associations), therefore only an efficient secretarial service and a qualified manager are needed.

Table 2: Innovations Centres for Firms (Group A) - Summary of services supplied

	Technological services supplied							
	Quality and certification	Project development	Laboratory Check/test	Technological training	Technological Information	Other technological services	Other non technological services	
No Centres suppliers	37	44	36	63	64	34	47	
Total Centes	76	76	76	76	76	76	76	
% of centres	48,7	57,9	47,4	82,9	84,2	44,7	61,8	

Source: Ceris-CNR

It seems to be positive that a considerably high supply of information *tout court* comes with an equally high level of training supply, because, as small and medium-sized firms are their greatest customers and have often a deficient technological substratum (even in terms of *forma mentis*), a simple transferral of technological information would be insufficient to determine a real improvement in quality, if not backed up by a healthy training activity aimed at creating new professionals and at improving the qualifications of those already working. Only some of the centres that are more "technical", specialised in laboratory-testing services and/or quality and certification, do not supply this type of service.

About 58% of the group A centres offer services here defined as "*research and development*", especially in the shape of assistance rather than direct participation in research projects of a technological nature or in the planning of pilot systems. There is a fairly frequent number of contributions to the set-up phase of technical-economic feasibility studies and to the acquisition of technologies necessary for the development of the project, as well as the following phase of the technological transferral of the obtained results.

The direct involvement in such projects characterises especially those centres where there is the collaboration of a University or research centre. This mainly takes place in the South, where ties with districts or local producers are weaker. Especially where there are mainly small or very small firms, it often happens that the centres provide the firms that do not have the possibility to have them internally, with computer back-up and machinery and equipment (CAD-CAM, lasers or other); this happens above all in traditional sectors where the fragmentary nature of production and the growing international or national competition make the survival of the weaker components subject to the possibility of using low cost external "qualifying" services. This type of service can also be made available for demonstrative purposes for medium-large firms, to encourage them to acquire it themselves. 48.7% of the centres issue, or directly favour the issue of the *certification* of products, firms or tools, or anyway supply services aimed at obtaining this. Very often this activity complements *laboratory services* or physical-mechanic tests.

There are centres specialised in this type of service as independent bodies (especially in traditional sectors: textiles, footwear, furniture), or integrated within network of centres (e.g. ERVET, CESVIT) that supply the other types of technological services. Centres in group A also offer a good level (44.7%) of *other types of technological services*.

In terms of variety of supply, 27% of the group A centres offer three types of technological services, around 21% four, 19% two and 17% five; 13% supply all six types and only two centres supply one: an average of 3-4 types is the most common situation. There are flourishing centres that offer few services because part of an integrated network.

Many centres (61.8%) also offer *non-technological services*: especially traditional consulting, but also on topics linked to the environment, hygiene and work safety, as well as access to regional, national and EU financing for entrepreneurs. In more fragmentary and traditional productive structures, also information and marketing assistance is growing, particularly as a global back-up to internationalisation and to trade fairs abroad.

4.2 Catchment Areas and Types of Services in "Group B"

This group includes the remaining structures in table 1: parks or technological poles, BIC, CISI and similar, research areas, city-research consortiums and other regional bodies (tab. 3).

They are rather recent structures, in that around 60% were set up after 1988 and the others soon before, except some with a longer history, like the City of Studies in Biella (1975), the Venice Research Centre (1950) and Tecnopolis Csata Novo Ortus in Bari (1969).

The *Technological and Scientific Parks* have a basically local catchment area, in that they usually emerge to make use of abandoned marginal or industrial areas, and, acting as incubators, to attract local firms: the range of services offered can go from the simply logistic-secretarial services to all those already described.

The *Research City Consortiums* were set up between 1986-89 in metropolitan areas with a high concentration of public scientific and industrial activity, to favour the process of the diffusion of technology between smaller local firms by means of consortiums sponsored by IRI, CNR, local Universities, large state or private firms and sometimes local bodies such as the Chambers of Commerce. Their catchment area has usually extended thanks to their interest in specific highly technological research projects involving not local subjects.

The *BIC, CISI, CEII and CII*, though having similar aims and values, can be divided into two groups: directly sponsored by the EU or belonging to the network of the regional centres of the SPI, an IRI company that intervenes in the areas of slow growth or of industrial re-conversion identified by the European Commission; its national network includes 14 companies including BIC (*Business Innovation Centres*), CISI (*Entrepreneurial Integrated Development Centres*), and SVI (*Society for Territorial Development*). Each company, created since 1985, has a catchment area primarily regional, but its impact is especially local, particularly where there is more than one centre in the same region.

The eight *Ministry for Industry and Agriculture Experimental Stations* fall into group B. They are Superior Institutes with their own legal status and independent administration, set up by the Royal Decree 1396 on 2nd July 1922. Each Station deals with the promotion of technical progress for a certain traditional industrial sector: silk, cellulose, paper and textiles, canned foods, fuels, oils and fats, glass and cork. Their catchment areas tend to be national for each sector, even if they meet the needs of the local original productive environment, The structures in group B are usually more stream-lined (except the Research Consortium) and provide consulting services rather than "material" ones. This is confirmed by the drastic drop in services of *laboratories, test/checks* (50% in group A and around 19% in group B, and only 13.2% in the specific case of BIC, CISE, etc), and *quality and certification* (from around 50% to 21.6%, 10.5% for BIC, CISI, CEII and CII. At the same level of group A there is the *technological information* (83.8%, with a peak of 86.8 in the case of BIC etc) easily organisable also with lean structures.

Differently from group A, in group B technological information is not supported by an adequate level of *training* supply (only 62.6% and 37.8% for BIC). However there is a very high rate of services linked to *research and development projects* (92% and 68.4% for BIC), fundamental for the work of Research Consortiums, infact one of their aims is the promotion and management of research programs of specific interest to consortiums, mainly using the tool of "framework agreements" with the firms and universities of the consortium itself.

On the other hand, the activities of BIC, CISI and similar on this subject are based on global assistance, both for the preparation of relative technical-economic feasibility studies and for technological transferral, rather than on the direct development of the project, which would request more structures and qualified staff.

Table 3: Innovations Centres for Firms (Group B) - Summary of services supplied

	Technological services supplied						
	<i>Quality and certification</i>	<i>Project development</i>	<i>Laboratory Check/test</i>	<i>Technological training</i>	<i>Technological Information</i>	<i>Other technological services</i>	<i>Other non technological services</i>
No Centres suppliers	13	65	21	41	69	30	68
Total Centres	74	74	74	74	74	74	74
% of centres	17,6	87,8	28,4	55,4	93,2	40,5	91,9

Source: Ceris-CNR

The other "*technological services*" (in particular take care of relations with Universities, Research centres and controlling bodies; help in obtaining patents or brands) are amply supplied (54%) by Scientific and Technological Parks and Research Consortiums, but are primarily located in the CentreNorth.

The residual category of *services defined as non-technological* are mainly supplied by BIC and similar organisations (97,4%). This figure falls to 73% for the others centres in group B, due to the fact that they are not offered by Research Consortiums.

The high figure relative to BIC and CISI is also confirmed by their intense activity as incubators, included in this category. According to data issued by SPI, only BIC and CISI belonging to this group, currently equipped with 22 "incubation" structures, have contributed in the last 5 years to create 390 new firms and 8,700 new jobs by means of a total investment of 1,700 billion lira (around 1 million \$).

The supply of technological services by the Experimental Stations is firstly centred upon experimental activities, laboratory analyses and checks (even though they are rarely aimed at certification) and, secondly, on the development of research projects and their consequent technological transferral, as well as on the parallel work of information and diffusion, also by means of regular official publications. In some cases there is the training and perfecting of suitable technical staff for the sector required.

Moving from group A structures to those in group B, especially towards BICs, there is an equally gradual reduction in the degree of structuration of the centres and in the variety of services supplied. Group A has a higher proportion of 3, 4 and 5 service types, group B of 2 and 3 types; for BIC and similar bodies, the trend towards reduction is further confirmed.

5. Firm innovation centres: an initial assessment of the Italian situation (1996)

Although the phenomenon of innovation centres arrived in Italy only fairly recently, it is still possible to make an initial assessment of the results using some base parameters collected during our study. Also if the centres have almost public or mixed capital, for their organisation, management and range of action they have been considered as true firms operating in the market and consequently analysed in their performances through business parameters (turnover, number of employees, of consultants and of customers, etc.).

As far as *turnover* is concerned, it must be said that as this figure is an item on the balance sheet, it is an all-inclusive item, where the part regarding income coming from services to firms does not always appear. This may be a considerable sum for the more efficient centres, or a low one where there is a greater amount of private or public external contributions, that are always desired in order to balance the books. Turnover regarding *group A* centres seems to be distributed fairly uniformly below 10 billion Italian lire, with a greater concentration between 1 and 2 billion, that becomes even higher between 3 and 5. The lowest concentration of the centres is between 500 million and 1 billion lire.

Group B centres have a less varied situation, though they have structures that have different aims, sizes and types of service offered, they are more homogeneous from a financial point of view. Turnover is more concentrated in the lower categories, up to 2 billion lire. Apart from the Experimental Stations that have a particular statute, group B centres have a greater amount of public and EC financing compared to the income deriving from services supplied: the latter come primarily from participations to research and/or development projects, technological or other training, or "incubation" services. However, some of the group B structures have been created recently, therefore they do not yet have a turnover.

If we turn to the situation regarding the size of the structures in terms of *employees and external consultants*, the situation with regards to group A shows a fairly uniform distribution in innovation centres for categories with up to 50 employees, with a slight drop in those between 11 and 20 employees. A few structures have between 50 and 100 employees and none go over 100.

Regarding instead external consultants, the top category goes from 0 to 5 consultants; the following categories, up to 51-100, are fairly homogeneous but decreasing, therefore there are no structures with more than 50 consultants. The number of employees and consultants is also lower for group B centres because, as has already emerged from the turnover, the structures are more "streamlined". Therefore the 0-5 category is the largest with regards both employees and consultants.

6 categories, from 0 to 2,000 units, have also been created for the number of *customers* declared by the various centres. Group A centres are distributed throughout all 6, with a greater concentration in those between 51 and 200 customers, and 201 and 500, whereas group B centres are especially under 200 units.

However, this type of data, like the services supplied, cannot lead to real comparisons between the centres. The number of customers varies enormously and there is no real link with the size of the centre, at least within certain limits, in that it is easier to find it in the type of service supplied. The centres that primarily carry out laboratory/test/analysis services are characterised by a higher number of customers, equal to the turnover, than

those that favour research and development activities. In the first case it is possible to carry out a large amount of services (often standardised) with a lower unitary value. In the second case, more articulated structures are usually necessary, where activities are more long-term and therefore the number of users tends to be lower. However, it must be pointed out that not always are all the services that the centres say they supply or are able to supply (for which they should have suitable structures) completely identified with the real situations and data: bureaucratic difficulties, incidental and operative, for example lack of financial resources and difficulty in selecting a director, thus making the management and strategic choices far more complex.

6. Conclusions

From a theoretical point of view, the phenomenon of innovation service centres can fall within the *triple helix* model (Viale, 1998). According to this, the selective ties of the global market, coinciding with the cognitive ties of the generation of new technological knowledge, have brought about the convergence of three realities (or actors) between them: public research, firm and government, that in the past were far less integrated or were simply linked two by two. According to this second model, contemporarily with a first level made up of the actors, a second <<meso>> can be found of the institutions that organise the production and use of technological knowledge. This second level can in turn be subdivided into other categories, including the *hybrid innovation agents*, that are directly responsible for the production/use of knowledge, the *interfaces of innovation*, that act precisely as interfaces between firm and research and the *hybrid innovation co-ordinators* with the aim of co-ordinating, directing and planning the various phases of the innovative activities, filling in the lacks in the spontaneous coordination between the traditional actors of the research, who are often incapable of becoming hybrid innovation agents. The last two categories combine various forms of institutions that also include innovation service centres for firms.

The perception of complex modernisation needs of the small firms during the 80's led economists, administrators and entrepreneurs to make up for this *market failure* by supplying firms with real services on behalf of public or mixed institutions to be created *ex-novo*. In fact, the choice of local administrators has been influenced by the availability of European or national financing more than by an analysis of the local situation and the real needs of the firms, of institutional ties, norms and financing of individual tools, which are not by the way backed by a good framework of national and regional regulations.

Similarly, the foreign models that were originally used as a comparison, mainly the *Business Innovation Centre* financed by the EU and French, English, and American scientific and technological parks, interacted in economic-productive situations that were very different from the Italian ones, especially from those characterising the small and medium enterprises system.

Therefore the Italian system is currently in a delicate transition period that, alongside a limited nucleus of fully operative centres with a good level of self-financing, sees a wide grey area of structures that survive or are born and perish without leaving a trace, wasting public money. It has been seen how the success of these centres is still closely linked to the vitality of the areas they are located in. In fact, their task is not to work as development agencies and this explains their decrease in weak areas like the South of Italy, but also those more recently developed in the Centre-North (Cariola, Rolfo, 1998). Therefore we can conclude that there is an inverted mechanism of impact upon small and medium enterprises: it doesn't happen that if the centres act well, the firms grow more rapidly, but it happens that if the productive structure of the area where the centre is located is already strong and vital, then also the centre grows well and gives a further positive stimulus to the local firms; this because the innovation centres are not able, if left alone, to create driving development poles, especially because, differently from other countries, in almost every region there aren't yet networks between the various components operating on

the territory or real economic development agencies able to co-ordinate and stimulate local and external operators, rather than to create isolated innovation centres.

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INFORMATION AND COMMUNICATION TECHNOLOGY AND SMALL FIRMS: THE POTENTIAL FOR BUSINESS GROWTH

Joe P. Connor and Bryan A. Woodburn

Abstract

This paper presents the findings from ongoing research undertaken as part of a European wide ADAPT project involving the impact of Information and Communication Technology (ICT) Small Medium Enterprises (SME). It discusses the potential for Small Firm growth and sustainability using ICT focusing on research in the manufacturing and engineering sectors. It raises a number of key strategic concerns regarding the direction of European Union policy towards the convergence of technological process and infrastructure. Finally the paper outlines an approach to the successful adoption of ICT by Small Firms emphasising the role that support partners can play.

1. Importance of small firms

There are some 15 million small and medium sized enterprises (SMEs) in the European Union employing over two thirds of the European workforce (AGORA,1998). The employment generating potential (Com.,1993) of the SME sector has been widely acknowledged as a key contributor to the regeneration of the European economy. This sector is properly recognised as the main engine of growth for both business development and trading infrastructure (Illeris, 1989) in Europe. As such it has been the focus and direction of European policy makers in particular the moves towards the current trend towards the diffusion of technology and innovation amongst SMEs.

2. Global information network

In the European Union the strategic focus for many of the attempts to revive the European economy is dependent upon the emergence of new communication networks as highlighted in the European Commission's White Paper, *Growth, Competitiveness.... in the 21st Century* (1994). A cornerstone of the report was the need to develop a European infrastructure to help rejuvenate economic growth and competitiveness and to create new markets with employment opportunities. Central to the success of this approach is the increased use of ICT services for SMEs as a means of facilitating growth through networking and distance learning (Bangemann, 1994).

In the manufacturing sector the use of supply chain based networks is already well established. The beneficial use of such networks by small firms can often overcome the competitive advantages that larger firms have through economies of scale (Curren et al., 1993). Effective networking is vital to the success of the small firm (Poon et al., 1996) and the use of ICT offers a relatively low cost solution

3. The potential for business growth

The potential for business growth using ICT has been recently highlighted in a new study by the World Trade Organisation (1998), which outlines the potential trade gains from the rapidly increasing use of the Internet for commercial purposes and predicts that by the year 2000 the value of electronic commerce will reach US\$ 300 billion. However the extent to which the Small Firm will benefit from the electronic market place will be

influenced by take up rates of ICT. In 1995 the rates of PC use across the European Union declined by firm size, falling to 24% for businesses employing less than 20 people (EITO, 1995).

Over the last four years this trend has changed and our current research outlined below, indicates that an increasing number of small firms now have PCs with proprietary software with the capability to network electronically but few of them are taking advantage of this opportunity. One such small firm (Rosenbaum 1998) who has benefited from adopting ICT is Pieces of Time, a small antique watch shop in London. In 1995 they had a £200k turnover and 1000 client network in the UK. They began trading on the world wide web via an electronic sales catalogue and by 1998 their turnover had increased to £1mn and their customer base had grown to over 4,000 clients from all over the world.

4. Strategic review

Clearly there is considerable potential for small firms to benefit from these new opportunities but at the present time there is only limited evidence to show that this potential is being achieved. ICT has the potential to foster co-operation and co-ordination of transactions between organisations and allowing SMEs to set up strategic partnerships that have the potential to consolidate their competitive position and enlarge their market share (Porter, 1985). Much of the direction of existing initiatives to promote the take up of ICT has been driven by the European Union. This has involved a convergence of technological process and infrastructure and the creation of ICT networks across EU countries. However this approach has been essentially supply driven and has been a critical factor in the limited take up of these new technologies by small firms. The response from the EU has been a call for a change in direction with a new strategic focus on more divergent approaches to the introduction of ICT tailored to meet specific market needs of particular industrial and commercial sectors at a local level (Com., 1996)

5. The Pegasus project

The Pegasus project at Bolton is funded through the European Union ADAPT initiative and involves research and development of ICT and small firm growth. The initial research phase of the project (Connor and Woodburn, 1998) involved the collection of data from Small Firms in England, France, Germany and Italy to establish ICT behaviour and adoption rates. Table 1 provides a summary of the data showing ICT usage, across project partner areas.

Table 1. Summary of ICT Usage in SMEs

<i>Loacation</i>	<i>Sample Size</i>	<i>Number of Responses</i>	<i>PC Use (%)</i>	<i>Internet Use (%)</i>	<i>e-mail use (%)</i>	<i>Web site (%)</i>	<i>Internet Capability (%)</i>
Abruzzo	200	65	77	28	15	11	77
Airelle	338	100	75	46	47	21	83
Bolton	215	120	100	34	34	6	100
Dresden	539	539	70	25	22	6	93
Marche	90	84	90	70	70	not	90

						known	
Molise	180	52	79	31	15	15	79

The findings are interesting indicating that there is a marked upward trend in PC usage since the earlier study in 1995. More firms have personal computers, are using e-mail and more importantly have the capability to network electronically via computers (the proprietary internet software is available free with their PC). There is considerable interest in the adoption of ICT, however very few firms are using computers for trading or commercial purposes. Those firms that have embraced the new technology rely heavily on support agencies and external computer consultants for introduction and development purposes which is problematic because many small firms reported a high degree of mistrust for computer specialists from outside the company. Surprisingly, although cost is highlighted by some firms, it is not a major concern or given as a barrier to the adoption of ICT. Those companies that have not moved beyond the PC, cited that this was because they did not understand the commercial benefits from using this networked technology.

6. The emergent development strategy

Clearly there is a crucial role for Business Schools or other support agencies who can act as facilitators or honest brokers in the change process. This is the role that was adopted in the second phase of the Pegasus project which involves assisting small UK firms in the target sector of manufacturing and engineering to further develop their ICT capability into a business reality. The major concern from our research was that although all the small firms in the UK survey had this capability they were not prepared to develop it further because they did not perceive the business case for doing so.

Secondly SMEs have a high degree of mistrust for "computer experts". Thirdly, our previous experience of end user change projects with small firms (Connor and Woodburn, 1998) had highlighted their highly resource intensive nature. We therefore sought a low cost implementation approach (Jarillo, 1986) that would minimise the resource implications due essentially to the diffuse nature of small firms. In order to achieve this we chose to build our implementation strategy upon the success of existing SME networks, which is well documented in the literature (Lamming, 1993; Macbeth and Ferguson, 1994). However this approach could be problematic (Szarka, 1990) and we were keen to avoid those networks that were dominated by the over powerful large firm operating at the expense of the smaller firms. We favoured those networks (Curran, op. cit) that were characterised by a more mutually beneficial relationship between the partners as it was felt (Senge, 1990) that they offered an environment that was more receptive to organisational learning and development. Our role would be to take the lead and facilitate the partnership.

7. Establishing strategic partners

The selection of the strategic partners would be crucial to the success of the project. The selection criteria used ensured that each partner had a mutually beneficial relationship with the SME community and that they also had an interest in developing this relationship around the adoption and use of ICT. We identified three companies with active SME networks; an innovation exchange, a high street bank and a large manufacturer from the aerospace industry. We talked extensively with them and their SME's to ensure that they met with our preferred typology and also had the commitment to support the Pegasus project at board level.

8. Pegasus Development

The development phase of the project is currently underway. The strategic partners recruited 50 small firms from within their existing SME customer base for the development phase of the project. We carried out an ICT review of each company and a summary of the analysis of the ICT development for the group is presented below in Table 2.

Table 2. Analyses of ICT Development

<i>% of SMEs (based on n:50)</i>	<i>Development Stage</i>	<i>Development Characteristics</i>
0	1	No PC
16	2	Limited PC use, WP, accounts
24	3	Wider IT use, e-mail
32	4	www. used for research
28	5	www. page-site
0	6	e-business

This model adopts an incremental approach to ICT usage and can be used to analyse and understand the ICT activities of SMEs. Using the model it has been possible to analyse the ICT development needs of the small firms and plan ahead for the ICT training and delivery phase. Whilst the data reveals that 60% of firms in this phase of the project are using the internet this use is very limited and sporadic.

9. ICT Development and Support

The next phase of the project involves ICT awareness raising and demonstration of the business benefits of ICT. The approach will involve a basic introduction and 'hands-on' demonstrations of ICT through workshops, seminars and in-company visits. Central to this approach will be a range of demonstrator applications some generic to all three partners such as; email, electronic marketing and data search using the internet. In addition each partner has identified mutually specific activities between them and their SME customers that can be developed and delivered on line. The Bank has requested access to financial data and information such as company searches, credit rating and wider economic and market conditions. The Innovation Exchange has requested access to design and innovation modelling software and information on sources of development funding. The Manufacturer is keen to develop electronic invoicing and ordering.

10. Conclusions

The potential for business growth using ICT is great and we all have some experience of this new form of business process. Our study has shown a marked increase in PC usage amongst small firms and although many small firms have the capability to trade electronically, they have as yet failed to capitalise on the business potential because they do not fully understand how these new approaches can benefit their business. Using established business networks and acting in a facilitatory role, we are beginning to develop and demonstrate business applications of ICT. This is being driven mutually by the partners and the SMEs and as such has a good chance of success.

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THE CHANGING ROLE OF ETHNIC ENTREPRENEURS IN AUSTRALIA

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Abstract

This study reports the results of a survey of 209 ethnic small businesses on the changing role of ethnic entrepreneurs over three generations. It focuses on the changes in motivational factors contributing to the creation of ethnic small business and explains the impact of "Productive diversity" on the success of the ethnic small businesses. The respondents in this research tell the story of the potential bottomline value of the unique human resource including the use of their native languages, ethnic skills, cultural diversity and ethnic resources for the development of ethnic entrepreneurs.

This research looks at the changing role of ethnic small business in Australia by studying the three generations over a period of time and empirically finds that the first generation is positively associated with push motivations, the second and the third generations are positively associated with pull motivations and all the three generations of ethnic entrepreneurs are positively associated with use of productive diversity principles. This study also reveals that 65% of the respondents have made use of productive diversity principles for entering and succeeding in small business.

I. Introduction

Immigration and multiculturalism have enriched Australia. Australians live in one of the most multicultural societies on the globe. Through their immigration policies, especially during the past 50 years, people have come to Australia from all comers of the world, bringing with them a wealth of different languages, cultures and traditions.

This diverse population is fast becoming one of our richest resources. It is being used to add value in business, trade and industry throughout the nation. (Keating, 1996)

Australia is one of the world's most cosmopolitan societies. Almost one in three residents in Sydney and Melbourne speak a first language other than English at home. Over 20% of the Australian residents are born overseas. Of the 80% of the people, who are born in Australia, 25% of these have at least one parent born overseas. As two out of every five Australians were born overseas, large proportion of our population has some sort of family, cultural or commercial link with the world outside Australia. (Australian Bureau of Statistics, 1997). *Hence, 40% of Australian residents have a direct international association.*

This has led to the phenomena of ethnic entrepreneurship in Australia. Immigration and multiculturalism have made the people of Australia far more cosmopolitan in their outlook. We're amongst the most traveled people in the world and enjoy marvelous diversity of culture, food, music, art and intellectual debate which would have been inconceivable only a few decades ago.

This multicultural population has begun to be regarded as a potential economic resource, able to play a leading role in restructuring the economy by bestowing on Australia a unique competitive advantage vis-a-vis overseas countries: a multicultural, multi-skilled workforce, with a unique knowledge of overseas niche markets. (Australian Economic Indicators (1996))

What emerges from these stories is a bow with many strings. Productive diversity has steered export ventures, developed niche markets in Australia, masterminded product innovation and generally provided a competitive edge for the small businesses which have adopted it as a strategic approach. Whether it is products or services, the domestic market or export, productive diversity has shown to make a difference to business performance. In fact, our diverse population is fast becoming one of our richest resources, and is being used to add value in business, trade and industry through out the nation.

This research examines the phenomena of ethnic business creation in Australia. Of particular interest to this paper is the question, "Does productive diversity play an important role in the ethnic business creation process?" The findings of this study bring forth a new model for ethnic business creation where the use of "Productive Diversity principles" emerges as an incubator and a sustained competitive advantage for the ethnic small business in Australia. This research also empirically proves that whereas ethnic business creation was the result of lack of opportunities amongst the majority of the first generation ethnic entrepreneurs, it is no more the case. The second and the third generation ethnic entrepreneurs came into small business definitely as a positive choice.

II. Background

This study utilizing 209 respondents was undertaken to examine the changing motivation for ethnic small business creation. A number of studies have been undertaken on motivations for being into business. But there has been no empirical study focussing on the changes in motivations over time amongst the ethnic businesses. While looking at the question "Why entrepreneurs are motivated into initiating a venture?", two streams of thought were developed.

One thought relates to intrinsic positive factors such as 'need for achievement' (McClelland, 1961), 'internal locus of control'-- the belief that the outcome of events will be influenced by the individuals efforts (Rotter, 1966 & Brockhaus, 1982), 'intention'-- the practical purposiveness of the individual's actions (Bird, 1988), 'risk-taking propensities' (Slevin and Covin, 1992), and 'efficacy'-- the belief in the individual's capability to perform a task' (Boyd and Vozikis, 1994). These factors may motivate some individuals and are categorised under "*pull theories*". The contrasting stream of thought maintains that negative situational factors result in some individuals being pushed into entrepreneurship. Among the negative factors that have been advanced are 'conflicts at one's place of employment', 'job loss' (Olofsson et al., 1986), 'career setbacks' (Gilad, 1986), and 'limited alternative opportunities' (Greenberger and Sexton, 1987). These factors may motivate some individuals and categorised under "*push theories*". The empirical analysis supports both push and pull theories, (Gilad, 1986, Hisrich, 1988, Olofsson et al., 1986).

This paper integrates the push and pull theories with the resource based theory and puts forth another category of the motivating factors called as "*productive diversity theory*."

The resource based theory can be viewed as a continuing search for competitive advantage by the creation, acquisition and utilization of unique firm resources (Barney, 1991). This is reinforced by the underlying assumption that resources heterogeneity exists across firms. However, heterogeneity by itself is not sufficient for sustained competitive advantage (Peteraf, 1993), unless resources are also imperfectly mobile across firms (Barney, 1991). It is this heterogeneity that creates the need for emphasis upon resources in strategic management research. The resource based strategic research emphasizes that valuable, rare, imitable, or non-substitutable firm specific

capabilities (e.g. tangible and intangible assets, skills, competencies and learning mechanisms) are the fundamental determinants of performance (Barney, 1991 and Teece, Pisano & Shuen, 1992) and sustained competitive advantage (Lado, Boyd & Wright, 1992).

Ultimately, the resource-based view of strategy is an introspective approach whereby firms seek to create and sustain competitive advantages by developing their internal strengths and/or acquiring complementary resources that are both imperfectly mobile and imperfectly imitable.

Some of the important characteristics of the resource based theory are (Greene, 1997):

1. It recognises intangible and tangible resources.
2. It accentuates the link between the internal characteristics of the firm and its performance.
3. It lays emphasis on resources, and it assumes that firms are heterogeneous regarding the resources they control and these resources can be immobile across firms.
4. It contributes to increased understanding of organizations differentiated by many types of characteristics one of which being ethnic.

III. Research design

The entrepreneurs chosen for this study were selected from amongst the current and previous business owners whose businesses were located within the inner city area of metropolitan Sydney city, NSW. This area was chosen for the study because it is an area populated by a large majority ethnic migrants. In this area, a vast majority of ethnic businesses are located. The criteria considered eligible for inclusion in the population was as follows:

1. Must be fully operational as on 1-4-96.
2. Must be owned and managed by its owner
3. Must be in continuous operation for at least 2 years
4. Must be owned by person from an ethnic group. (Italian, Lebanese, Chinese, Russian, Polish, Vietnamese, Philippines, Sri Lankans & Indians)
5. Must not be a franchise or a not-for-profit or a professional consulting business.

IV. Survey Instrument

A nine-page instrument was constructed with 63 questions designed to measure characteristics of both the ethnic entrepreneur as well as their enterprise. This questionnaire was designed to obtain information about the demographics of the ethnic entrepreneur, entry into business, business operations, motivations, business skills, business performance & growth.

The design of the survey instrument made use of the other survey instruments that have been previously developed for the study of ethnic enterprises. (Williams, 1987, Collins, 1989).

There were 42 direct and specific, 8 open ended and 6 ranking order questions. The remaining questions were developed on the basis of Likert's 5-points opinion survey scales, with value of 1 signifying a very unfavorable attitude and 5 a very favorable attitude.

V. Data Gathering

The data gathering phase of this research took place during a six month period from April 1997 until September 1997. The 500 questionnaires were administered to the respondents, 250 by post, which included a prepaid return envelope along with a signed cover letter explaining the project, and 250 questionnaires were handed to the respondents for personal interview by appointment. All the addresses of the respondents were obtained from the relevant government departments, the NEIS and AUSTRADE, that promote small business development in Australia. NEIS (The New Enterprise Incentive Scheme) is a program that assists the unemployed people through training programs in small business management in the development of small business and acts as a mentor to these businesses till they reach the break-even-point by helping them with business plans, obtaining capital, marketing, business premises etc. AUSTRADE promotes trade between neighbouring countries and mainly deals with helping business who want to Export or Import or expand their business in other countries.

The respondents included owners of surviving and failed businesses and were engaged in a variety of business activities including general services, retail trades, wholesale trades, manufacturing, construction, contracting, finance, insurance and real-estate. The data was analyzed using rigorous statistical techniques.

VI. Methodology

Data are presented in both the form of frequency distributions and using regression analysis to identify the presence of a significant relationship between ethnic small business creation and performance and a number of variables reflecting the nature and operation of small enterprises run by ethnic people. Various methodological procedures used in this paper involved applying the techniques of factor analysis and factor scores. Descriptive Statistics was used to study the demographics of the ethnic entrepreneurs and the nature of the ethnic business. Then factor analysis was used to identify the group of motivation factors for the creation of ethnic small business. Two hypotheses were tested using paired means test.

VII. Research question and hypotheses

Does productive diversity play an important part in ethnic business creation process in Australia? It may be hypothesised, "In the ethnic business creation process, productive diversity principles are positively associated with the ethnic business creation. It may be further hypothesised that the push as well as pull motivations have significant influence over the ethnic business creation process. As a consequence of the outcome, is it possible to propose a model that may explain the ethnic business creation process.

VIII. Data Analysis

The respondents in this research told about their experiences of the application of the productive diversity principles (coined to describe the use of our language, skills and cultural diversity for economic benefit) in their business. They talked as to how they have put productive diversity principles into practice and gained competitive advantage in their business as a result of the multicultural environment in Australia. This analysis proposes that *ethnic resources*, both economic as well as cultural, have a direct impact on the creation of ethnic enterprises.

Various motivational factors responsible for setting up the ethnic businesses were identified. Factor analysis was carried out to extract four groups to represent various motivators to be in business. The 18 items generated to measure these constructs were included in exploratory factor analysis using Varimax rotation. These groups are named as 'Use of productive diversity principles', 'Push motivations', 'Pull motivations' and 'Business skills'. The

over all factor structure evident in the screen plots indicated that the three factor solution best depicted the data (Table 1).

Table 1: Results of Factor Analysis

<i>Factor name</i>	<i>Constructs</i>	<i>Loadings</i>	<i>Reliability Cronbach</i>
Productive Diversity	Overseas Capital	.55	.76
	Links to country of Origin	.79	
	Ethnic networks	.81	
	Language&Skills	.83	
	Owned business in country of origin	.60	
	Cultural diversity	.73	
Push factors	Economic necessity	.60	.78
	Unemployment	.81	
	Qualifications not recognized	.74	
	Discrimination	.73	
	Redundancy	.81	
Pull Factors	Independence	.79	.85
	Opportunity	.74	
	Status & Prestige	.86	
	Support from family and friends	.81	
	Job satisfaction	.72	
	Technical skills	.83	
	On the job training	.55	

The first group called as 'Productive diversity' contained six items namely (a) Overseas capital, (b) Links to country of origin, (c) Ethnic networks, (d) Language & skills, (e) Owned business in the country of origin and (f) Cultural diversity. The second group called as 'Push Factors' contained the five items including (a) Economic necessity, (b) Unemployment, (c) Qualification not recognized, (d) Discrimination and (e) Redundancy. The third group called as 'Pull Factors' contained seven items (including two items of business skills) including (a) Independence, (b) Opportunity, (c) Status and Prestige, (d) Support from family and friends, (e) Job satisfaction, (f) Technical skills and (g) On the job training.

The factor analysis results were consistent with the theoretical constructs of the motivation items in the questionnaire. All the items that were supposed to measure Productive diversity and Push loaded on the same factor, except for the Pull and business skills that emerged as one factor.

From the results of the factor analysis, factor scores were computed by assigning unit weights to the individual criteria constituting each factor. Paired means test was performed to see if the differences in the motivations were statistically significant. Productive diversity and Pull motivations were significantly more important than push motivations. But the difference between the two (productive diversity and Pull motivations) were statistically insignificant.

Statistical analysis was extended to test a hypothesis that there was no difference amongst different generations of the ethnic entrepreneurs with regard to their motivation being in the business. For this purpose, the sample was divided into the first, second and third generations. The first generation included those respondents who themselves as well as their parents were born in the country of origin. The second generation included those respondents who were born in Australia but their parents were born in the country of origin. The third generation included those respondents who themselves as well as their parents were born in Australia.

Table 2 -- Factor Scores: A Descriptive Analysis (Mean and S.D.)

<i>Factor/Construct</i>	<i>First Generation</i>	<i>Second Generation</i>	<i>Third Generation</i>
Productive Diversity	5.93 (.84)	6.04 (.74)	6.08 (.91)
Push	5.97 (1.05)	3.97 (1.27)	1.72 (1.48)
Pull	2.13 (1.81)	5.80 (1.10)	6.11 (.95)

In the table 2, it is noticed that all the three generations placed significantly importance on the productive diversity factor. This is understandable from the fact that the ethnic business operators did make use of their culture, language, ethnic skills and ethnic resources to be in business right from the start. However, it is noticed that the first generation is more into business due to push factors, whereas the second and the third generation place greater significance on the pull factors for being in business. In fact, there is a clear cut declining trend in case of push factors from first to the third generation and an increasing trend in case of the pull factors. Thus, the hypothesis that there was no difference in the motivation factors across the three generations can be rejected. However, as an overall sample, all the three factors are significantly correlated to the creation of ethnic small business (Figure 1 -- omitted).

IX. Validation of the research

It was considered worthwhile to validate the findings of the statistical analysis through real case examples. It was identified that ethnic businesses are now beginning to recognize the economic benefits and opportunities that lie in multiculturalism. These businesses are gaining competitive advantage by capitalizing on the linguistic skills, cultural knowledge and business contacts of migrants and ethnic communities. The discussions of the respondents using productive diversity principles to enter and survive in ethnic small business are presented as follows:

- **Case 1:** M.T. and her husband were working class migrants who came to Australia under the skilled migration category. When they experienced several months of unemployment, M.T. contacted a friend in China. Her friend sent from China the toys that she manufactures. M.T. took them around the large stores. When they showed no interest, she set up her stall in the Westfield Shopping Centre at Parramatta. Thus, making use of the links to the country of origin and largely due to unemployment (the push factor), she entered into the ethnic small business.
- **Case 2:** A.C. is a Vietnamese who came to Australia as a refugee. He developed links with B.M., a partner in a local law firm. A.C. and B.M. took to Vietnam the combination of professional skills and culture needed to unlock the market. They have pulled off two major business coups in Vietnam since the government opened up the Vietnamese economy to foreign investments, in 1987. They were the first foreign law firm that was allowed to open an office in Hanoi with the help of V.H. the prized Vietnamese

employee. This indicates the use of Pull Factors (Professional Skills) and the principles of productive diversity (use of language and culture) for creating a successful business.

- **Case 3:** A.N. came to Australia as a Mechanical Engineer and failed to secure a job for 3 years due to lack of any local experience. He set up an Indian grocery & fast food store (mixed business) with the help of his wife who did all the cooking and the grocery items were sent by his family from FIJI having a fullfledged grocery business. Thus making use of his links in Fiji and help from his family (wife) and being motivated by Push Factors, he could create an ethnic small business.
- **Case 4:** N.V. is an Italian. He is involved in importing pasta from a factory, which his cousins run in Italy. He also imports other exotic ethnic products and goods familiar to ethnic customers. He says that he found importing from Italy and selling in Australia much cheaper than manufacturing in Australia. He has distribution centers in Sydney, Melbourne and Queensland. Thus he made use of the ethnic networks in these states to sell pasta to Italians. Motivated by Pull Factors, he made full use of the Productive Diversity principles in setting up a very successful business venture.
- **Case 5:** B.Y. and five of his associates are precision tool makers trained in Swiss institutions in India under a three-year full time course. These skills are available in Australia. They set up their own business here making use of the skills that they had acquired in their country of origin.
- **Case 6:** T.T. was a doctor but he was not allowed to practice in Australia. He came from Egypt. He failed to pass the medical examination to obtain a license to practice. His wife found out that a garment factory was up for sale. She expressed her wish to take it up. They jointly bought it by obtaining funds from her father and succeeded in running it profitably. They made use of the overseas resources from their country of origin.
- **Case 7:** U.D. married J and came to Australia. U.D. was a qualified doctor but failed to secure employment. He then joined the family business of making confectioneries with the help of his father-in-law and brother-in-law. He made use of the ethnic networks to enter business.
- **Case 8:** WA came to Australia from Thailand to do business. He came from a business background, obtained machinery as well as capital from his country of origin for setting up a manufacturing facility for making shoes.
- **Case 9:** MM came from Lebanon with the intentions of working for an accounting firm and furthering his qualifications. After working for 3 years, he was bored and started a restaurant with his friend who was trained in Singapore to provide a range of Asian cuisine. They made use of their ethnic friends to enter ethnic small business.
- **Case 10:** HC came to Australia from Malaysia. He was brought up amid the family's palm oil and rubber plantations. He had a business background. He used his scientific knowledge that he had acquired in his country and made the best hams in South East Asia. Thus he made use of the capital, business experience as well as the skills from the country of origin.
- **Case 11:** CS was trained as a food technologist in New Zealand. He obtained help in the capital investment from his business family in Malaysia. His partner was an Indian and together they developed and sold Indian type snack foods in Sydney known as 'Try Me'. Thus CS made use of capital from his country of origin, technology from New Zealand and network from India to enter into business.
- **Case 12:** RM is a Malaysian born accountant. He set up a fish shop due to the lack of good salary. He was the first to set up a live display of fish. With his Malaysian Chinese background and training and experience that he gained in Australia, he made his fish business a great success. Because of his knowledge of Asian cultures, he knew exactly what the Asian wanted. He also know what the Australian wanted as he was educated here and well aware of the Australian life style and eating habits.
- **Case 13:** N came to Australia from South Africa and set up a cake and cookies factory. His partner was from Hongkong who had some quality training in Japan but had work experience in the dairy products industry. With the help of his partner's knowledge about the culture and market of Japan they both started marketing Bakery products to Japan.

- **Case 14:** DW and his Chinese partner DC export a number of Australian made products to China. They formed a trading company that deals in hardware, building products and toiletries. DW with the help of DC's knowledge of the culture of Chinese people and the business environment there has managed to establish itself firmly in China. DC's family was of great help.
- **Case 15:** GD acts as a facilitator between investors in Malaysia and other Asian countries for Australian Technology. GD was born in Malaysia but educated in Australia. He is making use of the investment capital available overseas to export Australian innovation.
- **Case 16:** ND came from Yugoslavia. He was trained in the craft, dealing with small goods. He started manufacturing at a very small scale; a home based business. But he could not get a good market due to his not being able to talk in English. He took the help of his school going children to advertise and market the product. Thus he made use of his skills from his country of origin to enter and be successful in business.

X. Conclusions

The hypotheses enabled the development of a new model for ethnic business creation process. Besides push and pull motivations, this research highlights the development of another important motivating factor termed productive diversity. Statistical analysis confirmed that all the three generations placed significantly greater importance on the productive diversity factor. This is understandable from the fact that the ethnic business entrepreneurs, as revealed in a series of case studies reported in this paper, make considerable use of their culture, language and skills to create and manage their business. The statistical analysis also supported that the ethnic business creation process is positively related to pull and push motivations. However, it was found that the first generation ethnic entrepreneurs were more influenced by Push motivation while the third generation ethnic entrepreneurs were more influenced by Pull motivation. The first generation ethnic entrepreneurs placed significantly greater importance on economic necessity and unemployment, both push motivators. The second generation ethnic entrepreneurs gave greater importance to Opportunities in Australia for doing business and links to the country of origin, both pull motivators. The third generation ethnic entrepreneurs went into business largely due to pull motivations namely the opportunities in Australia, the links to the country of origin for doing business and the ethnic networks. Thus it can be concluded that the current trend reveals that the ethnic business operators do not enter business activity as a last resort but as a positive choice and productive diversity principles are very much in use by all the ethnic business persons.

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CHALLENGES OF LOCAL DEVELOPMENT: ENTREPRENEURSHIP

Lucica Matei

Abstract

At the end of the second millennium, accepting the features of development: economy internationalisation, change of the ratio cause -- effect within the dynamic social -- economic environment, globalisation and flexibility of markets, concept of long-lasting development, increasing the level of public ethics, institutionalisation of social-economic partnerships, as well as the European features of development: UE "development" and thorough study", market economy with functional competition, open borders, rigorous observing the subsidiaries and balance between European integration and national autonomy, we express our opinion that a multicultural, open, adjustable market economy provides adequate conditions for entrepreneurship. In this context, the role of local authorities in local-economic development will increase in Romania. The reform represents the most important accelerating factor for development. The reform enables the local communities to elaborate and adopt some own economic development models, to promote directly their own interests, to stimulate and support the local initiative. Thus, the entrepreneurship, supporter of the dynamic change and development will assert itself both within the public and private sector, both in production and services.

1. Introduction

The local development, approached as a component of the process concerning structural economic changes, requires the creation of local partnership, aimed to ensure the positive economic growth, based on the consensus at local level.

The local development assumes correlation with the policies for all sectors of activity, through economic development of enterprises (SMEs), as well as encouraging the innovative spirit, rural development, health, education etc.

The changes and actions carried out also on local level take into account the objectives for regional development in Romania, such as:

- diminishing the existent regional unbalances, focusing on an equitable development and reviving the less favored zones;
- preventing new unbalances;
- accomplishing the criteria for EU integration and access to financial instruments for assistance (structural funds, the fund for cohesion) etc.

In this dimensional context, the entrepreneurship, supporter of the dynamic change will assert itself and it will represent the accelerating factor for local development.

2. Local development partnership

The challenges, encountered at the end of the second millennium outline the future dimensions of social -- economic development. Mention should be made on the following:

- economy internationalisation in the context of the challenges brought by regional, inter-regional development policies, the national and regional dignity being acknowledged;
- globalisation and flexibility of the markets;
- long-lasting development, enhancing the role of new technologies, increasing the entrepreneurial spirit, developing the competition and entrepreneurial culture, self-development in society, changing the public opinion's attitude versus industry;
- institutionalisation of social-economic partnerships, aimed to strengthen the social dimension and the long-lasting development of the environment.

The experience of Western European countries emphasises the existent stimulative factors and models for local development initiatives, based on:

- decisional autonomy of local development;
- local performance depending on the management of local partnership;
- promoting innovative industries and entrepreneurship within civil services.

In Romania more and more local authorities, and recently regional authorities will play a key role in local-economic development. The reform represents the most important factor, accentuating the existent economic and social unbalances, or generating new ones: increasing the unemployment rate over the average in some counties. This situation will enable the local and regional communities to adopt a new model for social-economic development, which should promote directly their interests and support the local initiative.

In Romania, the local development is also imposed by the restructuring process, aimed to create local development models, specific for various areas, culture and traditions. At the same time, the local development is determined by the level of material, human, financial, informational resources.

The success of local development actions, performed by the local authorities depends on the modality to elaborate their own strategy, policies, programmes, plans etc. The local authorities' actions should not be "subordinated" to other decisions. Taking into account the principle of subsidiarity, that restricts the government implication in local authorities' activity, we underline the following issues:

- the local authorities have decisional autonomy in the development processes;
- the central authorities involve themselves, taking corrective measures, whenever disfunctionalities occur
- a partnership between central public administration authorities and local public administration authorities will develop, being subordinated to the citizens' interests;
- the local development programs require the increase of responsibility and the involvement of decision-makers, identification and turning into account of own and attracted resources in order to meet the local community requirements.

The objectives for local development are reached by local and regional actors, interested in solving the problems specific for their field of activity, who are organised in local development partnerships. The relation of association between the actors involved in local development, based on establishment of their own contributions, participation in solving the problems specific for the local community represents a main feature of the local partnership. The relation of association between partners is representatively and operationally. The partners accept to have dialogues on matters of mutual interest. The "open" feature of the partnership is provided both by its

representativeness, namely its structure, the promotion activities of the strategies incorporating targets for local development, and the positive, constructive, collaborative atmosphere for the partnership interest.

In order to achieve the local partnership, the following barriers have been identified:

- modalities for organisation and management;
- understanding and adopting the mechanisms of operation;
- establishing the hierarchical levels and the modality for decision-making;
- how and who achieves the function of control;
- how are represented the personal interests, which is their intensity;
- how will response the partnership actors versus change.

A good operation for the local partnership assumes the following aspects: exchange of information and cooperation, wish to have open dialogues, to negotiate, flexibility in dialogues, creating an intense interaction climate, understanding properly the advantages of an optimum operation.

3. Decision and development

The organisation of local partnership system requires the following issues:

- establishing clearly the roles played by the actors involved in local development (assignments, tasks, and competence)
- defining the modern work procedures;
- achieving a balance within the partnership system.

At the level of local partnership, the decision-making process assumes joint consulting and debating, as well as individual contribution aimed to implement decisions. The decision is based on a very large volume of information, with economic, technical, social components.

The European Union experience demonstrates the fact that whenever the local actors are involved in the decision-making process for local development, they have the feeling of responsibility for their own actions.

The local development partnership stipulates the actors' elements of responsibility and empowerment, the structure and fundamental criteria for its operation, objectives, assignments, criteria for performances in local development. The local partnership comprises important actors involved in developing and applying policies, who face serious obstacles, depending on the circumstances of local community, legislation, finance, taxes or lack of professionalism in this field.

through the local partnership, all actors are mobilised, they are getting confidence in their own activities, their efforts are credible and they co-operate permanently in local development problems solving.

The actors involved in local development hold various functions in the hierarchy of administration, on middle or microeconomic level, depending on:

- local management
- functional and decisional autonomy
- the role played in economic-social development as partner and/or participant
- strategic involvement
- consultative role

The actors' involvement in the local development process, who are situated on the middle level is characterised through the following aspects:

- the actors on this level (chambers of commerce, local development agencies, trade unions, professional associations, financing institutions, institutions of education, entrepreneurs' associations, consulting and training centres in the field of small and medium sized enterprises etc.) hold great independence, total autonomy, respectively partially autonomy versus the government;
- high capability to undertake partially some public and special assignments;
- counseling between the government interests and the individual ones (trade unions, professional associations);
- orientation towards certain groups of citizens (professional associations, trade unions, entrepreneurs' associations);
- less bureaucracy;
- orientation towards certain objectives (local development agencies, institutions of education, financing institutions etc.)

The actors' action, understood as a strategic involvement may be approached, on one hand as an option of the local leaders and decision makers in identifying the priorities for local development, based on local analyses, and on the other hand as a factor for turning efficiently into account the local resources. Therefore, a diagnostic analysis on the local community should be carried out, as a main component of the studies and analyses for local development, aiming to respond to the following issues:

1. attentive interpretation of the relevant social indicators for the quality of the economic growth;
2. the impact of structural changes in operation on national, regional level, with consequences on local level;
3. defining the position of local community on regional level;
4. adopting the structural adjustment policy, aimed to improve the capacity of transformation and adjustment, as well as the capability of innovation and creativity.

4. Entrepreneurship and innovation

An entrepreneur may be any person or group of persons, men or women, young or old, having ideas how to do something in the best way, trained to work, ready to take risks and to compare his/her ideas with the demand on market.

The best idea may be a product, service, process or event for the new market segment. Thus, the entrepreneur represents that person who transforms the chances into opportunities.

He/she undertakes risks and uncertainties from any activity. The entrepreneur may develop his/her idea through various forms:

- self-employment;
- partnership;
- corporation;
- non-governmental organisation;
- enterprise;
- employee in an enterprise or institution.

"The innovation represents an action which endows the means with a new capacity to create wealth". Innovation represents an instrument specific for the persons wishing the change. Innovation may be found both in the economic and social field. Being a process with a target, defined by changes, the innovation assumes: "systematic analysis of opportunities, revealed by the changes that might support the economic or social innovation". It is based on seven sources of opportunities for innovations, four sources being revealed by matrix A (omitted), corresponding to the endogenous environment of civil services, the other three being shown by matrix B (omitted), corresponding to the exogenous environment.

A successful innovation in the field of civil services should be simple.

The innovation may exist at the level of civil services sector, even if the following threats have to be faced:

- the institution supplying civil services is based on a budget allocated from the state budget, not on its results;
- the institution supplying civil services is not allowed to select the market segment for its services, it offers services for the entire local community;
- the institution supplying civil services does not carry out the analysis of its activity on the basis of the cost/profit relation.

Thus, it results its mission to maximise, not to optimize.

If the civil services may be transformed into profitable enterprises, it should be accepted the development of a partnership between the public and private sector. The partnership between the public -- private sector is based on common concerns, specific objectives, aiming to achieve the consensus. The local partnership is preoccupied to increase the quality of services, aimed to social welfare, to decrease the unemployment rate and to diversify the economic activities. The start-up of such a partnership in Central and Eastern European countries enables us to submit some recommendations concerning the entrepreneurial management in the civil services sector.

The entrepreneurial management assumes the existence of the strong wish to make changes in the institutions supplying civil services, the assessment of the entrepreneurs and innovators' outcomes, policies specific for entrepreneurial management in the field of leadership, organisation, motivation, incentives for personnel.

The circumstances for achieving the changes may represent barriers for the local community or individuals, having double action: a positive one in order to stimulate and a negative one in terms of stress. At the local community level, four inter-dependent elements are influencing the local partnership:

1. major changes in the future entrepreneur's life or major economic disorganisation at the local community level;
2. the new entrepreneur's training in order to participate as partner;
3. examples offered by other entrepreneurial behavior models, inspiring credibility, with a strong cultural and psychological influence;
4. possibility to obtain resources and markets, suitable for the entrepreneur's activity.

We have to underline the fact that "the end of the XIX century and the beginning of the XX century represented a period of creativity and innovation in the field of civil services".

5. Regional aspects of entrepreneurship development in Romania

Regional development in Romania, according to the regions conceived not as administrative territorial units (Table 1) will encourage, differentially the development of entrepreneurship and local initiative, depending on the own specific elements of the counties.

Table 1. Regions and subregions of development in Romania

<i>Number</i>	<i>Name of the region</i>	<i>Subregions</i>
1.	NORTH-EAST	Botosani, Vaslui, Iasi, Suceava, Neamt, Bacau
2.	SOUTH-EAST	Braila, Galati, Constanta, Tulcea, Vrancea, Buzau
3.	SOUTH	Arges, Dambovita, Prahova, Teleorman, Giurgiu, Ialomita, Calarasi
4.	SOUTH-WEST	Dolj, Olt, Mehedinti, Gorj, Valcea
5.	WEST	Timis, Arad, Caras-Severin, Hunedoara
6.	NORTH-WEST	Cluj, Bihor, Satu-Mare, Maramures, Bistrita-Nasaud, Salaj
7.	CENTRE	Brasov, Sibiu, Covasna, Harghita, Mures, Alba
8.	BUCHAREST	

This decade is marked of a period of fast economic, social, political changes, their effects being also reflected by the evolution of the entrepreneurial sector in Romania. The fluctuant evolution of this sector, determined by the crush of some economic sectors under the pressure of competition, demonstrates the fact that this sector registered a more accelerated dynamics until 1993 (Table 2 and Table 3). After that year, the number of the enterprises that were registered started to decrease.

Table 2. Evolution of trading companies during 1991-1996

	<i>1991</i>	<i>1992</i>	<i>1993</i>	<i>1994</i>	<i>1995</i>	<i>1996</i>
Number of companies at the end of the year	83614	297518	314637	439627	491066	537924
Number of companies registered during the year	83125	124652	108811	126801	55312	49613
Number of companies radiated during the year	114	748	1692	1841	3873	2755
Birth rate (%)	-	149.1	52.4	40.3	12.58	10.1
Mortality rate (%)	-	0.9	0.8	0.6	0.8	0.6
Rhythm of growth for the number of trading companies	-	148.2	51.6	39.7	11.78	9.5

Table 3 -- Evolution of private entrepreneurs during 1993-1996

	1993	1994	1995	1996
Family partnerships	73018	81622	64205	82533
Individual persons	142317	144399	162202	172497
Entrepreneurs	215335	226021	226407	225030

The regional distribution of enterprises is unbalanced, being influenced by economic factors (economic power of the region), social factors (skilled employees), financial factors (own and/or attracted financial resources). We emphasise the same assertion for the distribution of employment on regional level. We notice a trend concerning the increase of the number of employees in agriculture (the agriculture registered the most accelerated dynamics), in: Bucharest, Western and Central regions and a slight trend of growth in the services sector.

Table 4. Dynamics of SME sector in Romania

<i>Group/Zone</i>	1992	1993	1994	1995
0-9 employees				
Total	117036	199138	261514	289144
Bucharest	22912	42296	54963	60477
North-West	15694	26053	34126	38135
Central	15176	24711	30024	33238
South	14845	25810	31975	35271
South-East	14379	23637	33786	37621
North-West	12938	21433	29738	32721
West	10812	18070	22022	24095
South-West	10280	18128	24880	27586
10-99 employees				
Total	10638	14244	14921	15270
Bucharest	2140	2932	3283	3382
North-West	1497	1989	2054	2107
Central	1377	1904	1889	1928
South	1266	1498	1688	1720
South-East	1342	1750	1805	1844

North-West	1333	1766	1738	1770
West	1006	1480	1541	1576
South-West	677	925	923	943
100-499 employees				
Total	488	618	862	884
Bucharest	142	157	199	203
North-West	54	77	98	103
Central	50	74	104	105
South	74	67	86	89
South-East	58	83	105	108
North-West	54	77	129	131
West	32	49	82	84
South-West	24	34	59	61

Against the expectations, the services have not created new jobs in regions with a higher development level. Within the Carpathians areas and South-Eastern region a significant decrease of employment was recorded in the services sector. Slight increases were registered in Bucharest, South region and South-Western region. In the North-Eastern region, 9% represents the growth of employment.

Conclusions

The local development consists in: developing the local economic capacity, creating jobs, increasing the capability to face the threats, as result of changes and the economic, social reform.

It involves the following actions: identifying, modeling, developing the local economic, human, financial resources, achieving a local partnership, that comprises persons, institutions, organisations from the public and private sector. The policy adopted by local partnership encourages the entrepreneurship. A successful partnership will strengthen its actors' credibility.

The entrepreneurship, accepted as accelerating factor for local development asserts itself in a dynamic environment, for which the change means:

- developing and applying an improved management system in order to enable to the local authorities the achievement of objectives;
- determining the mission of the local partnership actors involved in local development.

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FAMILY SMALL AND MEDIUM-SIZED FIRMS' FINANCE IN THE ITALIAN BANKING SYSTEM

Stefano Caselli

Abstract

This paper concerns the financial behaviour of family small and medium-sized firms (FSMSFs) in the Italian banking system. Using a sample of 20 FSMSFs considered as "excellent" this paper aims to verify: how financial decisions contribute to entrepreneurial success; how financial decisions are made. Literature suggests as an interpretative model of FSMSFs finance the "model of growth": the cycle from birth to maturity which is also the cycle from "debt finance" to "equity finance". This principle is not absolute for the Italian system: many firms that can be considered as "excellent" use a "poor finance" debt-oriented strategy. Then this paper will investigate: i) if "family" or "system" ties affect firms' financial decisions; ii) if the support of "poor" finance to the firms' success has some weakness or some "breaking points" which must be managed. The results show the existence of a "map of possible development alternatives" in FSMSFs finance which may be used to understand the reasons for the success of firms with non-optimal financial structure.

1. Introduction

The analysis of the cases selected for this study shows significant elements related to the finance and, more in general, the financial behaviour of Family Small and Medium-Sized Firms (FSMSFs) in Italy. The aim of this study is to verify the nature and intensity of the relationship between the model of entrepreneurial success and the features of the financial variables of the firm. Due to the limited number of the cases examined, this analysis cannot be considered as exhaustive, nor can it be used for statistical purposes. However, it can give the cue for reflexion, which can lead to further investigation.

Twenty firms were examined through questionnaire and interview during 1998. They were located in northern Italy, they had a turnover between 40 and 120 million Euros, they were under a family-type ownership either of first or second generation and operated in different industries, ranging from food to clothing. The sample of firms has been selected on the basis of the "excellence" profile identified through the opinion of competitors, customers and financial intermediaries. The main characteristic of these firms is, therefore, quality, but they also show considerable profitability.

2. The dynamic interpretative models of corporate finance

The analysis of the financial behaviour of FSMSFs has been approached by applying the dynamic or evolutionistic models. The main characteristic of this approach is to identify the evolution of the external environment as a factor essential to the firm's growth. In other words, changing the scheme of analysis of the product's life cycle, the dynamic models reveal a series of successive stages that outline the evolution of the firm in relation to strategy, commercial policies, business areas and organizational structure (Scott, Bruce, 1987). This scheme of analysis, therefore, prescribes that a firm must evolve from a simple to a complex organizational structure, thus also determining the future competitive strategies of the firm.

Dynamic models also offer a considerable interpretative support to understand the development of both the financial function and the financial behaviour of the firm in relation to the enterprise's growth (Churchill, Lewis, 1983). This approach points out the different organizational modes and strategies of the financial function in relation to the life cycle. The successive stages of development reflect the patterns of change in the financial behaviour of the firm related to the degree of integration of the financial function with both the other firm's functions and the complexity of the variables to manage.

The identified stages are (Donaldson, 1978):

- i) accessory financial function or function subordinate to the firm's policies;
- ii) financial function integrated with the firm's managerial practices;
- iii) financial function integrated with the firm's strategies.

The outlined evolution is a useful tool of analysis in so far as it is used as a qualified benchmark to compare the growth of the firms examined in this research and to evaluate the degree of development reached by their financial behaviour. In this perspective, the attention is drawn to the third stage, where finance plays a role of control and government of the enterprise system. This appears to be justified by two reasons. Firstly, the historical and environmental context where the firm operates today influences the financial activity of the firm in terms of a larger number of market opportunities and more complex management. It must be pointed out that the sampled firms not only operate in the Italian market, but often develop their activity in the international market. Secondly, all these firms have completed the phase of start-up and first growth of their business, even overcoming in some cases the problem of succession and transformation of the business.

A joint analysis of the twenty cases shows a substantial gap between the basic principles of the firm financial activity, which are typical of the stage of strategic finance, and the findings of this research. Some features of the firm financial activity do not appear to be consistent with the type of FSMSFs examined in this research, i.e. a medium-sized firm, in a phase of advanced growth, characterized by entrepreneurial success and often operating in an international market. This gap can be identified in relation to the following elements:

- i) the structure of liabilities is mainly focused on short-term credit and the firm's own financial resources, raised from the members of the owner-family. The model of financing adopted is still based on an interrelation between the enterprise and the financial environment. There is basically an "enterprise-bank" relation, rather than "enterprise-financial intermediaries" and "enterprise-market" relations. Only one firm has chosen to be quoted on the Italian Stock Exchange, so enlarging the circuit of relations from the restricted "enterprise-family-bank" model to the wider "enterprise-family-market-bank" model;
- ii) the role of the financial function and its position within the firm's organizational structure appear to be marginal or anyway of support to the management. Only one firm shows a clear financial function managed by an autonomous financial manager independent of the general management. In the other cases, the deep-rooted organizational orientation is to centralize financial management, assigning it to a member of the Board of Directors, who is also a member of the family, or to the general manager;
- iii) the existing relations between the firms and financing banks are spontaneous, and not based on market factors (Read, 1998). In fact, from the assessment of the firms, we note that they tend both to consolidate a "hard core" of financing banks that keep a stable and lasting relationship with the enterprise, and to turn to different banks for minor loans (Alberici, Caselli, Di Antonio, 1995). This "twofold" approach at the management of the financing bodies portfolio means that the enterprise does not intend to develop *hausbank relations* with financial partners selected through market parameters. But rather it intends, on the one hand, to preserve well-established ties of

friendship with a limited number of "historic" banks, often located where the firm has its seat; on the other hand, to take advantage of multibanking in terms of stabilization of resources and reduction of the financial expense (Capra, D'Amico, Ferri, Pesaresi, 1994);

iv) internal financial systems and processes appear to be scarcely formalized or even absent. Only three firms have a complete budget process coordinated with a systematic monthly control of variances. The feeling is that internal financial systems and processes tend to be formalized only if they are indispensable to the business (Julien, 1994). "Necessity" and "contingency" prevail on organic management of the firm.

The empirical evidence emerging from the sampled firms gives rise to new questions on the interpretative weakness and simplification of the model of the firm growth cycle, rather than on the weakness of the financial management of the firms (Cressy, Olofsson, 1997). Actually, these findings are in line with those of many research studies based on larger samples of Italian enterprises (Cesarini, Ferri, Giardino, 1997). What clearly emerges is that, in spite of environmental conditions favourable to the strategic development of the financial behaviour of the firm, the owner-family leading the enterprise determines the rhythm of strategic, operational, financial and organizational development (Forti, Mariani, Nardozi, Silva, 1994). This leads to re-examine the problem of the financial behaviour of the firm in the light of the owner-family's life cycle and, above all, of the nature of ties it establishes both in the external environment and within the enterprise (Gibb, Davies, 1995).

3. "Family ties" and "system ties" interpretative models

Literature has widely described the characteristics as well as the advantages and disadvantages of the organizational structure that concentrates ownership and corporate control in the family (Danco, 1982). The element characterizing the family enterprise is the central role played by the owner-family during the entire life cycle of the firm (Schein, 1983). Long-term goals, market strategies and business variables depend on unitary management and on the choices made by its members.

The points of strength of the model of family ownership and control are: the capability of leading and coordinating the business, deep involvement in the firm's mission and the ability to manage elementary economic variables. In this last case, the entrepreneur shows his *animal spirit*: he has an innate ability to perceive and implement entrepreneurial activities, ranging from the purchase of raw materials to the transformation and sale of products. The points of weakness are: overlapping of the family's events with those of the firm (Kets de Vries, 1993; Levinson, 1971), as well as limited or casual competence in managing variables not related to production and distribution.

The sampled firms largely show the aforesaid features; in fact, the family becomes more and more deep-rooted not only in the course of time, as the first generation introduces the two successive generations to the business, but also in the firm's functions, as the management of all activities is under the control of the owner and, sometimes, of few other members of the family. This implies absolute centralization of decisions, or centralization with the approval of the *clan*. From the analysis of the cases, we note a limited stage of development of the functions not related to production: for instance, finance, marketing, management control functions are rarely identified. Two firms excepted, which have made the strategic choice of purchasing on the market the skills the family lacked, the other firms follow a model of "*self-sufficient family sufficient for the firm*". Following this model, the members of the family extend, according to circumstances, their action even to spheres that they do not know very well. Therefore, a sort of complex equilibrium is established for which the family is, at the same time, the degree and tie of the organizational growth as well as the essential factor that allows the firm to adapt itself to the stimuli coming from the market.

The firm's financial behaviour is strongly influenced. Family ties decidedly determine its features in relation to both external and internal relations (Binks, Ennew, Reed, 1991). As far as external relations are concerned, the relationship with the financial system is based on an implicit pact of stability and noninterference between the enterprise and banks. On the one hand, debt finance protects shareholders since risk capital is neither modified nor attacked from the outside, though it can be from the members of the owner-family; on the other hand, banks preserve their market shares without exposing themselves to disintermediation. The firm turns then to bank borrowing as an exclusive source of financing and minimization of *disclosure*. At the same time, banks offer surplus resources compared with the actual requirements of the firm. Undoubtedly, in the fund raising process a crucial role is played by the firm's self-financing which guarantees a significant flow of resources (Store, 1994). Consequently, a self-enforcing effect develops for which self-financing strengthens the enterprise, generates new financial resources, reduces the requirements for third party contributions and legitimizes the firm's bargaining power in respect of banks to obtain additional resources. This spurs the family to concentrate on the "real" component of the business, rather than on the financial one (Osteryoung, Newman, Davies, 1996). Most of the owners of the firms examined in this research claim that the wealth generated by the enterprise is the firm's property and they think that being quoted on the Stock Exchange is not a valid option since it destabilizes the close link between the family and the enterprise.

As far as internal relations are concerned, the development of internal financial processes assumes, applying the *make or buy* logic, only *make* characteristics. As previously stated, the development of more or less formalized procedures of budget, control and financial planning is linked to the family's capability of extending its sphere of intervention to the area of financial management. The reason for this phenomenon is likely to lie on the need to protect competence, regulations, practices and relations coming from the family. The *family resource view* prevents the entrance of external elements that can alter equilibrium and overlapping between the family and the enterprise (Yazdipour, 1991).

Family ties must, anyway, also be assessed in the light of the present environmental ties. In this perspective, the paradigms both of deregulation and of the major role played by finance constitute the main *value drivers* of the financial environment. However, the Italian financial system appears to be still characterized by significant market delays and incompleteness. Firstly, the rather recent introduction of the new Bank Law in Italy has not given significant results in terms of maturity and diversification of the competence of financial intermediaries in market areas different from the traditional bank credit (Forestieri, Corbetta, 1996). The services related to *merchant banking* are spread on an episodic and limited basis. Secondly, due to the poor development of market circuits and financial intermediation services -- both at the main Stock Exchange level and, above all, at the level of secondary markets devoted to small and medium-sized firms -- there are limited opportunities of matching the requirements of diversification of the financing sources of the firm with the requirements of diversification of the investment for the investors. Finally, we would like to stress the weight of the fiscal variable on the firm finance, as it strongly acts in favour of the raising of debt capital, to the detriment of the channel of risk capital.

A joint analysis of family ties and system ties reveals the presence of strong synergies, for which the *capital saving* attitude of the family firm is fostered by "*poor*" financial services supply and corroborated by economic advantage. In this sense, bank borrowing and multibanking constitute the functional means of actually reducing both the cost of fund raising and the control on the part of the financial bodies.

To synthesize, this study shows that the firms' financial behaviour is extremely contradictory and, anyhow, far from the principles emerging from evolutionistic approaches (Watson, 1995). This is due to the fact that finance is at the same time a "*follower*" activity in the business as well as as a factor of efficiency and, therefore, of success for the firm.

In the first case, finance does not assume strategic importance, but it is a functional tool leading to the attainment of the entrepreneur's real objectives. In this sense, finance "follows" the firm's evolution on the basis both of the adaptability as well as flexibility of the resources of the firm and of the actual needs that emerge. In other words, the firm finance is characterized by a sort of "fine tuning", i.e. it is continuously positioned on the minimum combination of competences, processes, services and financial activities, indispensable for the business growth.

In the second case, the financial behaviour of the firm is oriented to efficiency, since it is able to maximize the firm's competitive advantage on the basis of environmental conditions. There are substantial conditions of competitive advantage linked with the low added value structure of credit supply and multibanking. These are: excess bank credit, the possibility of selecting the financing banks portfolio, the stabilization and reduction of the financial expense, reduced obligation of external communication as well as reduced control on the part of the financing bodies.

4. A different analysis of the financial behaviour of FSMSFs: breaking points and factors of finance development

4.1 The breaking points of family finance

It is difficult to indicate "new paths" for the development and change of the financial behaviour of the firm, when there are excellent results which contribute to legitimize the firm's success in the medium term. Therefore, the categorical but generic imperative according to which "the firm must modify its own finance replacing poor models with enriched and strategic models" appears to be a weak imperative, if the differential advantages of this behaviour are not stressed.

We must then turn our attention to the possible breaking points characterizing the relation and virtuous equilibrium "follower finance-efficiency of results" that have led the growth of the FSMSFs examined.

The most crucial questions are based on the actual possibility of finance, on the one hand, of continuing "to follow" the evolution of the business with the family's resources and, on the other hand, of implementing maximizing behaviour taking into account the environmental conditions.

In the first case (the breaking point of *follower* finance), the greatest risk is linked to the gap that may emerge between the capability of the owner-family of producing internal managerial responses and the environmental variables: if the rate of environmental change is higher than the firm's rate of adaptability, the family will not be able to effectively determine the rhythm of growth, and debt capital will not exercise the economic function of equity (De Cecco, Ferri, 1994; Binks, Ennew, 1997). The aforesaid risk occurs in conditions of both "*absolute gap of competence*" and lack of cohesion within the household group. This means that the process of environmental/strategic change (determined, for instance, by the entrance into new markets or new geographical areas; the introduction of new technologies rather than the development of a type of growth through external opportunities, such as equity agreements and alliances) can require financial competences which the family lacks. Moreover, this risk can be greater when successive generations enter the firm since the cohesion between the family and the enterprise can be loosened, or even questioned, by the different objectives of some members of the family. A significant case concerns a firm, where the owners recognized the growing gap between core competences and other competences not related to production and consequently they employed a general manager, chosen in the market, and created the figure of a financial manager.

In the second case (the breaking point of efficient finance), the risk of exploiting the advantage of a kind of financing based on bank borrowing and multibanking is linked to the possible "discontinuity" which may occur along the path of the firm's growth. Discontinuity is related to environmental elements (recession in the industry, obsolescence of products, entrance of new competitors, change in the competitive dynamic), strategic elements (entrance into new markets, launch of new products, a sudden increase in size) and organizational elements (succession, entrance of new partners, traumatic events in the family). All these factors bring about a substantial change in the firm's competitive structure and increase the business risk.

In a context of discontinuity, liabilities based on debt capital and multibanking cannot exclusively finance the business characterized by a growing entrepreneurial risk and, as the case may be, by deferred profitability (Hughes, Storey, 1994). Nor can the model of the owner-family guarantee the firm: a complex system of functional competences to manage the firm's evolution; additional resources compared with self-financing and which are supposed to increase; capability of self-government of a transition process that can concern the family in itself (Caselli 1997).

In this context, the determination of the firm finance in strategic terms and the entrance of new partners assume crucial importance for the enterprise (Reid, 1993). Capital risk finance gives greater consistency and greater flexibility to the dynamic of raising and investing financial resources. As a consequence of the entrance of new partners, the family ownership no longer coincides with the management of the business and this substantially influences strategy formulation and the competitive behaviour of the firm. In particular, this means that the owner-family multiplies the tools necessary for planning and governing the business. In this regard, there are growing opportunities to acquire external technical and managerial competences which the firm lacks; to separate the control of financial variables from the control of real variables with the intervention of specialized financial intermediaries; to conclude agreements and establish alliances essential to the pursuit of the new paths of growth (Bannock, Morgan, 1992).

From the analysis of the sampled firms, we note that only one enterprise has made a "quantum leap" towards the Stock Exchange in Italy, without altering the family model of control, but extending it to professionals and financial resources which enhance the firm's competitiveness. On the contrary, the other firms show a model that is still rather similar to that of efficient and *follower* finance, as previously described.

Although the breaking points of the financial structure of the family firm can be easily identified and clearly show the danger it can incur, it is necessary to state the elements characterizing the financial behaviour based on debt finance and self-financing. The feeling is that, at the same time, the breaking points determine the possible expansion limits and guidelines of the family finance, leaving a grey area of indeterminacy which fosters the success of *high leveraged and multibanking oriented* finance.

4.2 The factors of family finance development

In order to conduct an effective analysis, it is necessary to examine the different factors that explain the enterprise's financial behaviour. This allows us to carry out a goal-oriented diagnosis according to "problems" and "important critical areas" on the basis of which it is possible to compare the firm's positioning and verify its consistency with the path of growth followed by the firm. In this sense, there may be the emergence of successful situations which can be unbalanced as to banking debt, but extremely consistent and compact as regards a certain group of critical areas. In this regard, the factors of development of the financial behaviour of the firm can be related to financial strategies, financial policies, internal procedures and competences possessed by the firm (Table 1).

4.2.1 Financial strategies

Financial strategies tend to attain the general objectives of business finance, i.e. the optimization of fund raising and investment and the guarantee of the financial soundness of the firm in terms of leverage, creation of a liquid reserve and matching assets with liabilities (Copeland, Koller, Murrin, 1991). In this regard, we have already stressed the effectiveness of the financial strategies of the firms examined, which emerges in relation to both the first and the second objective. The optimization of fund raising, in terms of volume and costs, is, in fact, reached by taking advantage of the weaknesses in the banking system supply. Whilst, the guarantee of financial soundness is determined by a careful choice between the family's own resources, self-financing and third party resources, in addition to the creation of a considerable bank credit reserve.

Besides the aforesaid goals, which are the "fundamentals" of financial management, other objectives emerge which characterize the firm's strategy. They are both contingent or specific objectives and structural objectives.

In the first case (specific objectives), financial strategies can lead to the establishment of external companies which, to different degrees, exclusively carry out financial business. In this regard, we note that one of the firms examined includes a financial enterprise in its group structure. There may be various reasons for this choice: the entrepreneur's requirement to invest excess resources according to speculative logic, the objective to centralize the group's finance and the relations with financial intermediaries, the creation of in-house financial products to meet the requirements of the controlled companies. These hypotheses show the existence of a complex strategic design, where financial strategy is gradually integrated into the general corporate strategy. The same can be said for the choice of the enterprise to progressively assume a group configuration with the aim of rationalizing and controlling not only the real activity, but also fiscal and financial activities (Lorenzoni, 1990). In this regard, three of the sampled firms have chosen to acquire a large number of controlled companies. This choice is due not only to the need for supervising the business areas and the different productive activities, but also to the need to increase financial efficiency. This also makes a strong impact on the organizational structure of the finance function in the enterprise; in fact, we see that with a greater number of controlled companies, a greater need emerges to devote specific resources to supervise financial activities.

In the second case (structural objectives), the firm's financial structure must necessarily face two problems: the relationship with the family finance and succession planning. In this regard, the choices of asset management on the part of the family are closely linked to those of liability management on the part of the enterprise and those of remuneration on productive factors (Roger-Machart, 1991). Low efficiency in the management of the family's property can be a potential element of disequilibrium and crisis of the family-enterprise relationship. This because wealth can be taken away from the firm. Of course, this risk tends to increase during the phase of succession, when the goals of the family members can diverge within the family and from the firm's goals (Kets de Vries, 1988). However, the firms examined seem to have managed effectively both the relationship with the family finance and succession planning, preferring to invest resources within the enterprise and leading clear-sightedly the phase of succession, even in dramatic circumstances as one case witnesses.

4.2.2 Financial policies

Financial policies confirm in their implementation the choices made at strategic level (Altman, 1986). Therefore, the approach is concrete and relates to: the different financial management areas of the budget; the structure of the relations with the financial system and with the group enterprises; the management of the financial services offered to customers and the coordination of the risk management process (Table 1). In this regard, the aforesaid areas show, in the firms examined, different degrees of development.

The cases examined reveal situations of equilibrium and managerial efficiency in the different financial management areas of the budget: structural presence in the budget of rather moderate values of working capital, negative commercial working capital, a low ratio between credit allowed and credit spent.

Table 1 The factors of development of the financial behaviour of FSMSFs

Financial strategies	Financial policies	Internal procedures	Competences
<ul style="list-style-type: none"> • Leverage general objectives • Relationship with family finance • Creation of financial enterprises • Creation of the enterprises group • Succession planning • Organization of the finance function 	<ul style="list-style-type: none"> • Management of budget financial areas • Relations with the financial system • Management of intra-group relations • Management of financial services to customers • Coordination of the risk management process 	<ul style="list-style-type: none"> • Business planning • General and different areas budget • Fiscal and financial planning • Control and auditing 	<ul style="list-style-type: none"> • Competences in establishing relations with the financial systems • Financial management competences • Product specific competences

Positive results seem to emerge from a gradual process of technical and organizational learning which has involved the human resources present in the enterprise and the family. This has taken place, even if serious mistakes have been made. In fact, as almost all interviewed firms have stated, during the firm's evolution the following events have occurred: losses due to changes in exchange rates, unfavourable trends of the interest rates related to the cost of fund raising, rather than disequilibrium in the structure of working capital. The aforementioned mistakes are often made when there is limited capability of management of the financial variables, or when operating functions prevail on financial activity. This last case is typical of the management of working capital; in fact, the choices of both the purchase function and the commercial function can follow specific goals of maximization of their own activity without verifying the impact on the equilibrium between assets and liabilities.

As to the management of the relations with the financial system, the firms examined have also shown an excellent capability of involvement, above all as regards financing banks. This is essentially linked to the entrepreneur's "charisma" as well as to the traditional relationship between the family firm and banks. In other words, the capability of interacting with the actors of the financial system appears to be more a spontaneous variable for the enterprise, rather than a strategic variable, as it is linked to personal factors (Alberici, Caselli, 1998).

Group configuration enterprises take advantage of the aforesaid capability of interacting with the banking system, also with the aim of multiplying credit availability. In this regard, the prestige and bargaining strength of the family leader allow controlled companies to strengthen their credit standing and bargaining power towards financing banks when the amount of financing, maturity and rates must be fixed. This allows, on the same terms, the improvement of the quantity/quality of the financial resources raised from the banking system. By contrast, the areas of financial policy related both to the management of financial services to customers and to the coordination of the risk management process appear to be scarcely developed, if not absent. However, these two elements are not in

themselves factors of financial excellence, but rather, possible options often linked -- from the economic advantage point of view -- to significant minimum size of the firm.

4.2.3 Internal procedures

The analysis of the firm's internal procedures can be conducted in relation to the firm financial planning, the formulation of the general financial budget and specific functional areas budget, fiscal planning and the internal control and *auditing* to verify variances compared with the desired targets (Table 1). In this sense, procedures constitute the infrastructure of the policies and decision-making process of the firm as regards finance, since they support the entire management cycle, ranging from the determination of objectives to the control of results and implementation of corrections.

At a first stage of analysis, procedures and instruments devoted to finance appear to be an essential condition to govern the firm's financial behaviour. However, this statement is in strong contradiction to the evidence of the firms examined, where efficient financial strategies and policies are implemented in spite of limited formalization of specific procedures. In particular, only one firm shows a budget process related to the whole business and subdivided into main areas. The other sampled firms show limited implementation of procedures. This means that the formalization of procedures does not involve the whole firm, but rather, it is typical of limited areas where planning and control appear to be indispensable for pursuing their policies.

The firm's organizational structure that provides limited implementation of well-defined procedures for financial management is consistent with the FSMSFs' financial behaviour model. In particular, the low degree of formalization of the decision-making process is the result of both the family's tendency to determine the firm's rhythm of growth and its capability of adapting itself to environmental stimuli (Simon, 1992). However, this can lead the enterprise to dangerous breaking points, typical of *follower* finance, which can be reached in circumstances such as: complex group structure, a growing number of the business areas where the firm competes, entrance into new markets and consequent greater number of competitors to face. Significantly, many firms have clearly stated their intention to develop planning and control methods in order to preserve the family's effective direct government.

4.2.4 Competences

Financial area competences can be subdivided into three different classes: competence in establishing *relations* with the financial system, financial management competences and product specific competences (Table 1). Therefore, competences of the first type are important as to relations/communication (management of the relations with financing banks, management of the relations with institutional investors, etc.); competences of the second type are important as to the management of the activity of a specific area (management of the Treasury's department, investments, working capital, etc.); competences of the third type are important as to the management of specific financial products (foreign exchange, instruments of risk cover, etc.).

The organizational structure of the firms examined shows that relational competences clearly prevail on management competences and, above all, on specific competences. The reasons for this disequilibrium are similar to those disclosed in the analysis of internal procedures, in fact, also here the *family resource view* conditions the firm's decision-making process by limiting the acquisition of processes and technical competences from the outside. In particular, relational competences come from the family and they are then reflected in finance. This also takes place in the management of the financial areas where, owing to environmental contingencies and stimuli, a learning process has developed concerning the resources already existing in the enterprise. As to the management of specific products, the approach is different; here the internal process of learning by doing is extremely limited and

competence can be acquired only from the outside. In this last case, the tendency shown by the firms according to the *follower* finance logic is to acquire lacking resources to the extent that they are indispensable to the effective management of the business.

5. The role and the positioning of financial intermediaries

The verification of both the role played by financial intermediaries and their functions in respect of FSMSFs tends to confirm the picture emerging in numerous research studies conducted on the typology of the relations between the financial system and enterprises in the Italian market (Forestieri, 1998). As a matter of fact, the model of *corporate banking* appears to be widespread and accepted in the Italian system as an element indispensable for management transformation and strategic innovation concerning banks. However, this tendency is more linked to the desire to supersede the model of commercial bank, than to the wish to introduce a new model of management of the relationships with enterprises (Caselli, 1998).

This change should be evaluated on the basis of the definition of corporate banking, considered as an autonomous business area within the whole business of the bank itself (Saunders, Walter, 1996). In this regard, three factors clearly characterize its operating structure: the range of the services offered; the degree of coordination of the services offered compared with the structure of the customer's needs; the degree of continuity of the bank-enterprise interrelation during its entire life cycle (Saunders, 1997).

The features of the financial behaviour of FSMSFs contribute to disclose inconsistency of the banking system of supply as regards the limited focus on the corporate area. The presence of a *follower*, though efficient, corporate financial function places the bank in a position of disadvantage in terms of information, exposing it to the free riding action of the enterprise. In this sense, it is just the excellent standing of the enterprise that contributes to increase the points of weakness of the supply of the financial intermediaries focused on lending in the strict sense of the word.

Due to the complexity of the finance of FSMSFs, financing bodies must offer differentiated services and their positioning must be consistent with the structure of the financial requirements of the enterprises. This must stimulate to identify the tools for an efficient analysis of market dynamics through models of mapping and segmentaion of customers, verifying their effectiveness in terms of contribution to the development of corporate banking from both the technical and strategic point of view.

The sampled firms allow us to draw an approximate reference map for market segmentation and subsequent positioning of financial intermediaries. In spite of the limited number of enterprises, it is possible to identify substantial differences in the factors of family finance development, which allow financial intermediaries to offer differentiated services. In particular, the groups of firms emerging from the sample include: "traditional firms", "firms undergoing transformation" and "complex firms".

In "traditional enterprises", financial behaviour is clearly subsidiary to the management policies of the firm. This class includes enterprises characterized by family-ownership, often of first generation, and concentration of management policies in the most prominent members of the family. The firm's behaviour towards the banking system develops according to a "poor" approach to financial choices. Products purchased are mainly traditional and the most innovative ones are neglected; relations with banks are frequent but often characterized by a transaction approach; they are, anyway, considered satisfactory.

"Enterprises undergoing transformation" utilize financial products to a growing extent as a consequence of either market changes (strategic transformation), or changes within the enterprises (organizational transformation). The process under way appears to be led not so much by an explicit choice of reinforcement and sophistication of the firm's financial behaviour, as by the evolution of the business itself that is characterized by the development of exports, planning of innovative investments, creation of new products, or succession. This means that the firm's demand for financial services will progressively shift from minimum survival requests to the request of more complex products specifically designed to meet the emerging needs of the business. In this regard, there may be a greater risk of breaking the equilibrium of the family finance in terms of the family's capability of adjusting itself to the rhythm of growth and processes of change of the enterprise.

"Complex firms" show a high degree of development of the financial function within the enterprise structure and therefore financial choices can be considered strategic choices. This class includes firms characterized by an "excellence" profile as regards, above all, the "ownership-management" structure. In particular, the aforesaid firms have already overcome the phase of succession, or they show an organizational structure allowing functional correspondance between managerial roles and management variables. The emerging attitude towards the banking system is dual: full exploitation of bank borrowing thanks to multibanking; search in the market for qualified partners in a position to operate as specialists and solve the firm's specific problems.

The identification of segments of enterprises should constitute market targets to be attacked by financial intermediaries with specific policies of supply.

As far as "traditional enterprises" are concerned, the bank's competitive positioning in financial services must, in principle, follow two different paths. On the one hand, credit products must assume the structure typical of asset lending, i.e. an approach of protection from credit risk through a specific policy of multibanking and correct assessment of security. (Cressy, 1996). On the other hand, the enterprises potentially able to modify their attitude and to progress in their business as well as in their financial behaviour can be assessed according to their expected profitability. This entails, for instance, medium-term financing consistent with cash flow coming from the enterprises' projects.

As regards the "enterprises undergoing transformation", the bank must assume an aggressive competitive position towards the market. This because the high rate of transformation of the financial, proprietary and managerial model of these enterprises generates a market space highly differentiated as to requirements and potentially profitable for the bank (Buckland, Davis, 1995). In the specific area of financing services, supply must be extended to a wide range of products which make the structure of the firm's *funding* compatible with the evolution of the business. In this sense, the source of creation of the competitive advantage is twofold: it is both analytical and of synthesis. In the first case, the bank must coordinate the offer of products not according to a commercial approach, but according to the actual requirements of the firm. This implies that the bank will no longer assess an enterprise on the basis of security, which is typical of asset based operations, but will proceed to a comprehensive and prospective evaluation oriented to allocate funds in relation to requirements (Peterson, Raghuram, 1994). In the second case, the comprehensive assessment of the enterprise must lead the bank to position itself, independently of the amount directly allocated, as a supervisor of the firm's finance and a consultant to support long-term financial choices. The approach developed in the area of financing services leads to the bank's positioning in the area of corporate finance services. This completes, if the bank possesses the appropriate competences, the supply of financing services and assures the enterprise's loyalty in the course of time.

Finally, as regards "complex enterprises", the bank's competitive positioning must be considered to be fully directed both to the leadership of differentiation and to value creation in the long-term relationship with customers. As to the allocation of funds, the bank's capability of coordinating its network of competences appears to be decisive, and so, besides the traditional function of lender, the bank also plays the role of *financial manager* of the enterprise, by organizing the most appropriate forms of fund raising to meet the enterprise's financial requirements (Rajan, 1996). In this regard, corporate finance appears to be the element of integration of credit tools, by both extending the sphere of intervention of the bank and completing the modes of intervention on the enterprise's debt and equity.

6. Conclusions

From a comprehensive assessment of the features of finance and, more in general, of the financial behaviour of the FSMSFs examined in this research, some fundamental elements emerge which help to identify successful paths for the family firm in Italy.

A first consideration concerns the supposed self-sufficiency of the evolutionistic models. It is difficult to justify the excellent performance of enterprises which have already overcome the stage of small size as well as the critical phase of succession, and compete in international markets, with an apparent "poor" financial management, based on bank borrowing, only partly formalized at the organizational level and generally lacking specific managerial resources.

The evolution of finance from a "poor" model, "ancillary" to the other firm's functions, to a rich model integrated into the firm's strategies cannot, therefore, be explained as an automatic and inevitable trend to which the entrepreneur must passively adapt. In this regard, it is, however, true that the macroeconomic environment stimulates enterprises to adjust their financial behaviour to more and more complex rules leading to success. Nevertheless, these stimuli must be related to a careful analysis of the characteristics of both the family business and the system ties influencing the enterprise.

In the first case, as regards the financial behaviour of the firms we note the presence of a model of "self-sufficient family sufficient for the enterprise", in a position to adapt itself to market requirements and extend its own sphere of intervention even to activities far from the core business. In the second case, the entrepreneur takes advantage of the incompleteness of the Italian financial system -- limited diversification of intermediaries' supply and multibanking -- as well as of favourable fiscal factors, maximizing his advantage in terms of quantity of available financial resources, cost and control on the part of financing bodies. These characteristics outline for the enterprise a virtuous and contradictory equilibrium not without risks, where follower finance coexists with excellent financial results.

The decisive aspect to explain the reason for the firms' success with regard to finance seems to be clearly linked to the enterprises' capability of managing the breaking points of the aforesaid equilibrium, in relation both to the limitations of the financial and managerial self-sufficiency of the owner-family and to the possible internal and external discontinuities which can substantially modify the path of growth of the enterprise.

The capability of FSMSFs of foreseeing and managing the risks of their own behaviour must, therefore, be observed through the analysis of four critical significant areas which cross the enterprise from the outside to the inside: financial strategies, management policies, processes and competences. Only under this detailed profile it is possible to identify the path followed by the entrepreneur to put together -- on the basis of strategies and environmental stimuli -- the mosaic of elements defining the firm's financial behaviour appropriate to its specific competitive position.

A second consideration concerns the role played by financial intermediaries, which are the completing element in this analysis of the firm's finance. In this regard, the entrepreneurs consider the banks as "anonymous". This is due to the implicit pact of non-interference between banks and enterprises which allows the former to increase their loans and the latter to have excess financial resources at their disposal.

The banking system has the task to face the challenge, accelerated by the process of European integration, to operate in the different business areas provided for by the new Bank Law and still today only partially approached. This will affect enterprises: not only debt finance will be replaced with risk capital, but also growing market opportunities will emerge. This change will produce a stronger tension on the breaking points of the family finance, obliging entrepreneurs to pay greater attention to the critical areas of the financial behaviour of the firm.

The feeling is that banks anyway will have greater responsibility and more pressures, because not only they will have to legitimize the validity of their own entrepreneurial formula in the different business areas devoted to the enterprise, but they will have to establish lasting relations with successful enterprises, offering differentiated services as well as support in terms of supervision of the financial behaviour of the firm. This means that they will interact with the different factors of development of the firm finance, without compromising the delicate and winning equilibrium between the different components of the firm and those of the family.

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ADVENTURERS OR PACKAGE TOURISTS? THE INTERNATIONALIZATION OF SMEs

Per-Anders Havnes and Petri Ahokangas

Abstract

In previous separate works the two authors have examined two different aspects of the internationalisation of SMEs -- manifestations of internationalisation strategies and dynamic development of export orientation. In this paper these two approaches are combined to explore possible relationships between internationalisation strategies and the outcomes of the internationalisation process. The conclusion is that specific change patterns cannot be attributed to the strategic focus of the firm. Management decisions on organising resources and activities are, to some extent, independent of decisions on the pattern of progression of these activities.

1. Introduction

Like all business people, the managers of small firms are increasingly being affected by the forces of internationalisation. These forces influence raw material supply, access to technology, competition in domestic markets and opportunities in foreign markets, and cooperation and partnerships. In the endeavour to cope with the challenges associated with internationalisation, it may be asked whether the managers of SMEs at the end of this century go into the unknown like the adventure travellers a century ago, or can their situation better be compared with the safe and predictable journey of present day package tourists.

From these starting points, the purpose of this paper is to explore internationalisation and especially the longitudinal aspects of change in SMEs internationalisation. In doing this we are adopting a process perspective as outlined by Van de Ven & Poole (1995). Thus, our objective in the paper is not to follow only the 'conventional' approach of studying processes by looking at the dependent and independent variables in cross sectional analyses. We will also study the longitudinal properties of the internationalisation process, which means that we have to study the co-evolution of several variables over time. By doing so, we aim to increase the understanding of how managers of SMEs handle the development of their businesses.

2. Previous empirical studies are dominated by cross sectional data

In their frequently referenced definition Welch and Luostarinen (1988:156) typified the process perspective by defining internationalisation as *"the process of increasing involvement in international operations"*. Indeed, a general acceptance can be observed, among the researchers of SME internationalisation, that internationalisation is a process that develops over time. Unfortunately, an equally widespread weak point can also be observed: the researchers have failed to really include the longitudinal element in their research designs.

A number of authors of review articles on internationalisation and exporting -- covering a period of almost two decades (Bilkey, 1978; Reid, 1981; Thomas and Araujo, 1985 and 1986 Miesenbock, 1988; Aaby and Slater, 1989; Dichtl et al. 1984; Buckley, 1991; Gemünden, 1991; Andersen, 1993; Leonidou, 1995a and 1995b; Leonidou and Katsikeas, 1996; Li and Cavusgil, 1995) -- have all agreed that longitudinal data and longitudinal analyses are

required if we are to study internationalisation. They also admitted that they had hardly ever found testing of process hypotheses by any means other than cross sectional data. Similarly, a review of 39 articles and reports on empirical studies published between 1981 and 1996 found only one example of a combination of longitudinal data and longitudinal testing methods (Havnes, 1999). The accumulation of results from the research has further been impeded by insufficient conceptualisation (e.g. Dichtl et al., 1984; Andersen, 1993; Leonidou, 1995a and 1995b). One further criticism has been that the research designs have generally been too simplistic. Only a few variables or concepts have been included in each model, and the majority of the studies are merely establishing typologies or identifying traits of firms or their managers (Havnes, 1999).

The dominating process models employed in previous research are variations of the *stages model*. In stages models the firm is assumed to progress through stages of increasing complexity and commitment. There are many problems with these models. Firstly, they lack proper justification for their delineation between stages. Secondly, there is a general need for explanations of the mechanisms that would progress the firm from one stage to another (Leonidou and Katsikeas, 1996; Ahokangas 1998). A third problem is their continuous and unidirectional nature. The stages models include no option for a firm to skip one or several stages or to retract from a high to a low level of commitment. With these limitations it seems appropriate to regard the stages models in their most common forms as ordinal scales of a 'degree of internationalisation', but not as development models (Havnes, 1999).

Another type of change models are the *learning models* typified by the Uppsala model (Johanson and Vahlne, 1990). These models emphasise the competence gained through experience as a prerequisite for increased engagement and commitment in internationalisation, which in turn increases experience the same way as in the stages models. The resulting development pattern is also continuous and uni-directional progression, but these models do not identify stages.

The strongest general feature of all of these outlined models, is an implicit assumption of an immanent program which pilots the firm through a predefined development path. This means that accumulation, uni-directionalism, and incrementalism characterise the change process (Van de Ven 1995) in internationalisation. It is regarded as normal that firms will increase their knowledge as well as resources, which in turn will result in increased involvement, increased markets, increased turn-over and increased sales. All other development, except increase, is regarded as failure. In this respect these models discussed above are normative (Havnes, 1999). The missing element in these models is the free will or choice of the manager when choosing to expand or retract in markets or when choosing to accept or reject orders.

The notion of experience resulting in an accumulation of competence is, however, also very closely related to the fundamental mechanisms of the resource based models as indicated e.g. by Ahokangas (1998). The stages perspective on internationalisation does not explicitly point to the important role of resources and external interaction in the internationalisation process -- the management of which can be seen among the major functions of any SME manager. The Nordic network perspective (e.g. Johansson & Mattsson, 1988; Håkansson & Snehota, 1995) and the resource (or resource-based) perspective (Ahokangas 1998) provide a theoretical platform for including these two important elements in an explicit form.

The internationalisation process can essentially be defined as a firm-specific development process driven by a deliberate logic adopted by the firm. Assuming that small firms are dependent on the development potential of key internal and external resources (cf. Gibb & Scott, 1985), small firm internationalisation is determined and constrained by their resource stock accumulation and development, i.e., the *resource adjustment/development processes* within the firm, and between firms and their environments (Ahokangas 1998). Seen from a process perspective, the firms' internal resource accumulation and development takes place through interaction with other firms according to the learning-by-doing principle.

3. The present research approach

Opportunities for developing a firm emerge from changes in the environment of that firm. Therefore, opportunity perception and recognition can be said to be among the major functions of an SME manager. Seizing opportunities requires actions, and the actions require the manager to be able to organise the internally and externally available resources. These functions require abilities that we associate with entrepreneurial, or rather: innovative behaviour -- but also administrative skills.

Seen from a development perspective, competition affects the internationalisation patterns of firms defined by their resources and activities; i.e. firms seek to adapt to the environment either proactively or reactively by adjusting their resources through different activities. These activities include the exchange of tradable resources, the development of internal resources and the pooling of resources with other firms (Ahokangas, 1998). In doing this the role of the manager is crucial. Indeed, we need to consider two perspectives in managing the internationalisation process in small firms: the manager and the firm (Haahti, 1989; Havnes, 1998). In our setting the manager can be regarded as a *venture manager*, since in the internationalisation process he is taking the firm beyond its current activities and developing the resource base of the firm. The *firm* can be defined in terms of resources and actions in which the resources available to the firm are brought together. Therefore, internationalisation as such, can be defined as "*the process of mobilising accumulating and developing resource stocks for international activities, regardless of the content of the international activities themselves*" (Ahokangas, 1998: 63).

The term *process* refers here to a series of activities carried out in order to achieve a particular result (Halinen & Törnroos, 1995). The utilisation of resources is fundamental to our understanding of the development of the firm. This, in combination with our perception of the firm as a continuum, leads to the conceptualisation of any change process as a *cumulative* process. Any change in a firm implies a development from a current platform or situation. Whether this change is in small steps (incremental) or in large steps (quantum leaps), it has interesting implications on the process of internationalisation in SMEs. Indeed, it must be recognised that direction of change (increase or decrease) is not a pre-planned or pre-programmed feature of any firm. Without this notion, the interpretation of the process may resemble that of the life cycle theories (including stages models), but it excludes any notion of pre-programmed development (Havnes, 1999). There is also a close resemblance to evolutionary theories, but we explicitly recognise the importance of the free will or choice in the decisions made by the venture manager.

Furthermore, the rationale for a firm is that it is capable of transforming a product or a service where an external customer is willing to pay for this added value. Therefore, development can only be analysed in the context of its external parties. The role of the manager in this kind of setting is twofold. First of all, he is the intermediary between the external needs, present or future, which the firm may cater to. These needs must be identified as well as interpreted in relation to the firm's resources and capabilities. Secondly, the manager must be the organiser of the available resources as well as the organiser of the activities which are required to materialise the products required to fulfil the external needs. Therefore, the model of the change process must include the firm, as well as its interaction with the environment (Figure 1 -- omitted).

The benefits from production processes as well as change processes in business life materialise at a later stage than the associated costs. For this reason all business processes require external input of energy¹, which we have grouped here under the term resources. The control of appropriate and sufficient resources are therefore a prerequisite for having a sustainable change process. The time differential between activities and materialising of associated benefits necessitates longitudinal observations to capture any causality.

Finally, the free will or choice of the manager may be expressed through plans which guide decisions on more detailed levels, or through continuous decisions at all levels. This allows for pre-planned as well as opportunistic decisions. These fairly simple and obvious statements lead to a set of requirements that in sum give a very precise specification for the change model which must 1) include the firm and its relations with the environment, 2) allow control by the will of the manager, 3) allow opportunistic decisions as well as decisions directed by previous planning, and 4) include cumulative mechanisms for securing and controlling appropriate resources.

The two research contributions that are the basis for this paper have focused on change patterns and strategy formation independently. In this paper the two perspectives are brought together. The following presentation will focus on two phenomena: the observed A) *patterns of change* in export quotas of the firms, and B) the associated *categories of strategic behaviour* that the same firms have exhibited. These phenomena will be discussed in sections 5 and 6 of this paper. The research approach is by necessity exploratory, since no record of previous empirical research combining these phenomena has been found.

The line of reasoning will depart from the role of the venture manager as the intermediary between the market and the available resources of the firm. In this context the market influence has high volatility, while the influence from resource based strategies tends to reduce variation. There are two mechanisms to the latter effect. First of all, resources by themselves represent a limited platform for variations, secondly, any strategic plan will give priority to a limited selection of the 'unlimited' options in the market. Therefore, our proposition is that *firms in which existing resources or products dominate strategic thinking will frequently represent non-volatile change patterns, while strongly market oriented firms will more frequently represent volatile change patterns.*

4. Data

The data used in this paper come from the INTERSTRATOS project which is a co-operation project between researchers in eight European countries (see Appendix and Table 1). Between 1991 and 1995 five consecutive data sets were collected using identical procedures for selecting the sample as well as identical questionnaires for collecting the data. This means that the INTERSTRATOS project is a longitudinal panel study, the focus of which is on the changes in a range of variables observed in the same firms over time. The representative INTERSTRATOS panel sample covers seven countries and includes 1700 firms that have responded four or five times over the period of observation.

The firms in the INTERSTRATOS data set come from five manufacturing industry sectors defined at three digit NACE level. The industry sectors were chosen to represent different degrees of home market orientation and different degrees of technological maturity: textile, electro/electronics, food and beverages, wood and furniture and finally mechanical engineering. The selection procedure was random within five size classes, ranging from 1 to 499 employees².

Table 1 Number of observed firms over the 5 years of Interstratos project.

	Number of observations per firm										Total	
	Panel sample											
	1		2		3		4		5		N	%
	N	%	N	%	N	%	N	%	N	%	N	%
<i>Austria</i>	641	11	480	22	335	29	359	40	323	40	2138	20
<i>Belgium</i>	682	12	218	10	103	9	48	5	15	2	1066	10
<i>Netherlands</i>	2822	49	523	24	89	8	20	2	0	0	3454	32
<i>Switzerland</i>	485	8	250	11	143	12	102	11	89	11	1069	10
<i>Norway</i>	359	6	187	9	130	11	83	9	62	8	821	7
<i>Sweden</i>	465	8	341	16	242	21	220	25	260	33	1528	14
<i>Finland</i>	316	6	184	8	120	10	74	8	45	6	739	7
<i>Total</i>	5770	100	2183	100	1162	100	906	100	794	100	10815	100

The two studies reported here were based on two separate, partly overlapping sections of the INTERSTRATOS data set. The study on clusters of strategic behaviour includes firms from the industry sectors electro/electronics and mechanical engineering, from Finland, Sweden and Norway, and with observations in 1991, 1993 and 1995, in total 154 (Ahokangas, 1998:89). The study on change patterns includes all firms with four or five observations over the five year period, in total 1700, cf. Table 1. Some of the variables used in the analyses are identical and overlapping, some are different in the two studies.

5. Categories of development patterns

Due to the scarcity of previous longitudinal studies based on panel data, no previous example has been found for analysing the dynamics of firm development. There are examples of descriptive (and normative) development models, such as the life cycle model. Following an investment period, there will be a start-up and growth phase, followed by a stable phase, with a declining phase before termination of the firm's activities. Another example can be found in the assumed progression through the stages of the stages model. The dynamics of these models depicts continuous growth or improvement with no anticipation of a final decline.

These two examples of descriptive model illustrate that the longitudinal change patterns can be broken down into three basic elements of change: growth, stable and decline. Growth has a special sub-category, start, where the initial state is zero. Decline has a special sub-category, stop, where the final state is zero. These elements can be detected when a minimum of two observations have been made of the same variable. In such a case the depiction of the change will be a linear interpolation between the two observed values at the beginning and end of the observation interval respectively, see Figure 2 (omitted). These five basic change elements with two observations of each variable will here be termed *the first order change patterns*.

In principle, the change elements in consecutive intervals of observation may follow in a number of different combinations (Havnes, 1999). Since the present panel study has five observations, and therefore four observation intervals, there is a practical limitation to the number of combinations that may be detected. Five basic patterns have been defined. First of all there is the *increasing pattern* where all observed values at the end of each interval is larger than the observed value at the beginning of the interval. This is a combination of first order change category *growth* only. Secondly, there is an *irregular pattern* where the observation period includes intervals of both growth and decline. Thirdly, there is a *stable pattern* where only small and random variations can be found in consecutive observations of the same variable. This means that all intervals are stable. Fourthly, the *intermittent pattern* will be recognised with intervals with start and stop in combination with any of the other first order patterns. The fifth and final pattern is the *decline pattern* where all intervals are declining, see Figure 2. These categories will be termed *second order change patterns*, since they are both able to depict direction of development and change in the direction of development³.

These change patterns are synthetically derived here. The rationale behind this is first of all that previous studies have not demonstrated to what extent the actual development of firms support life cycle models, incremental growth models, etc. Secondly, there is evidence that a number of successful firms or activities may alternate between intervals of expansion and retraction. The next step will therefore be to investigate the development of internationalisation over time within this framework of change patterns.

6. Clusters of strategic behaviour

Ahokangas (1998) identified five different development strategies for Nordic SMEs over three dimensions: the firms' orientation towards 1) internal development, the firms' orientation towards 2) network development and 3) the use of either internal or external resources in their development. The period of observations is 1991-1995. In the following the strategies are briefly described.

Cluster 1 (DIVI): Internationalisation through (customer oriented) diversification. The 21 firms in cluster 1 were named diversifiers because of their strong growth in the number of customer groups and export areas, but also in the number of product groups. The behaviour of these firms regarding the adjustment of internal and external resources was an expression of the logic driving the international diversification process in the firm. Regarding export strategy and export experience, this cluster included both internationally developed and developing firms. Co-operative activities in the fields of extension of product range, sales, purchase and supply and manufacturing were typical for this cluster. However, only limited changes in co-operative activities were observed during the period. Marketing-related issues were also important to the firms, as they actively used external information facilities in the context of marketing.

The growth of firms in cluster 1 (DIVI) in terms of sales was mediocre, and in terms of employment the development was negative. The export activities of the firms belonging to cluster 1 (DIVI) reflected the wide variation between firms in terms of the "stage" of international development reached by individual firms. Direct and indirect modes of exporting dominated the cluster, although some firms made direct investments abroad in marketing and/or manufacturing units. The mean number of export countries was less than 5 in 1991, but grew rapidly to almost nine countries during the period of observation. The geographical variation in the location of the export countries was high, including all three main continents.

Cluster 2 (PONI): Product-oriented networking internationalisation. In the seven firms of this cluster, growth in the number of product groups exceeded that of cluster 1 (DIVI). An even more substantial increase, however, was achieved in the co-operation activities, especially foreign co-operation activities, of the firms. Transportation and warehousing in foreign markets were typical new co-operation activities, whereas a negative trend was observed for co-operation in research and development in the domestic markets. The combination of a decreasing number of countries (continents) targeted by international operations, and extreme growth in export sales resulted in a marked increase in export intensity, while in the same period figures for total sales hardly grew at all. This indicates that although the domestic sales of these firms experienced a dramatic fall, the firms were able to survive by increasing their exports. In keeping with the rapid growth, the firms of this cluster were the only group in which the number and range of contacts to foreign outside information facilities increased. The number of employees increased only slightly during the period. The export activities of the (PONI) firms were characterised by a combination strategy including indirect and direct exporting. This combination made it possible to serve a fairly large number of export countries; the mean number of export countries in 1991 was 10.9. However, during the period of observation in 1995, the mean number of export countries decreased to 6.4. The export area of these firms was typically either Europe, America or Asia, but not a combination of these.

Cluster 3 (EIBI): Efficiency- and information-based internationalisation. Cluster 3 was the biggest of the five clusters, comprising of 52 firms. Like the firms in cluster 2 (PONI), the firms in cluster 3 (EIBI) applied a strategy of similarity regarding the development of internal and external resources. These firms had relatively few co-operative activities during the whole period (typically extension of product range, manufacturing and sales), and their use of outside information facilities was at a low or modest level compared to other clusters. The result of this strategy was unfavourable development in terms of sales, export sales and employment growth. The export strategy of the firms belonging to cluster 3 (EIBI) was fairly stable and dominated by two strategies: indirect exporting only or a combination of both indirect and direct exporting. Only a few of the firms in this cluster made investments abroad, and for many no export countries were reported. A number of firms were subcontractors for other firms that were exporters. Typically, those firms for which export countries were reported had exports to a narrowly-focused geographical area, with the number of export countries remaining stable during the period of observation. The export intensity of these firms was also rather low compared to other clusters.

Cluster 4 (PDMI): Product development and marketing-based internationalisation. The four firms in this cluster were the fastest-growing group of the panel in terms of sales, employment and export sales. Regarding the growth in the number of product groups, this cluster was similar to cluster 2 (PONI), although in cluster 4 the firms were not network-oriented the way they were in cluster 2. In fact, networking activities decreased during the period with one exception: co-operation with foreign partners in the domestic markets in the field of sales and manufacturing actually increased during the period. This may indicate that these firms were able to acquire part of their growth momentum from foreign partners active in the domestic markets. Another feature of this group was the increased use of foreign information facilities during the period, whereas contacts to domestic information facilities decreased.

The firms in this cluster were of two types: on the one hand, highly-developed exporters with a complex export strategy, including investments abroad, and, on the other hand, starters in the process of internationalisation. This division was also reflected in the number of countries served. However, in spite of differences in terms of internationalisation, the firms in this cluster were consistently developing their resources according to a similar strategy.

Cluster 5 (DNCI): Domestic networking and customer selection internationalisation. Cluster 5 consisted of 27 firms that were internationalising through networking indirectly, through increased cooperation in the domestic markets with domestic partners. This could be discerned from the high frequency of firms reporting indirect exportation modes. At the same time, new products were a characteristic of this cluster. Thus, extension of the product range and sales were typical areas of cooperation. The use of outside information facilities decreased during the period, as even the number of firms visiting international trade fairs went down. Total sales of the firms showed only a slight increase, whereas export sales doubled during the period, representing a good average result within the clusters.

The export strategy of the firms belonging to cluster 5 (DNCI) resembled that of cluster 1 (DIVI). However, firms in cluster 5 tended to rely much more on a combination strategy including both indirect and direct exportation. Moreover, contrary to cluster 1, these firms pursued a stable exportation strategy during the period of observation. The export area of the firms in cluster 5 was rather large, which was also reflected in the number of countries served.

7. Conclusions: strategic behaviour and development patterns

The interaction between strategic clusters (Ahokangas, 1998) and change categories (Havnes, 1999) is set out in Table 2. Also indicated here is which of the strategic clusters are dominated by focus on external interaction (m), and which on resources (r). The expected frequency of observation is below five in too many cells to allow any statistical testing of interaction in this table. However, the general picture is that the different change patterns are represented in most of the strategic clusters and visa versa. The few examples of concentration on a few change categories can be attributed to a low number of observations.

Table 2 Interaction between strategic behaviour and change patterns

Change pattern categories	Strategic clusters										All	
	DIVI m		PONI m		EIBI r		PDMI m		DNCI r		N	%
Non-exporter	1	7			3	9	1	33			5	6
Incremental growth	5	33	4	57	6	18			8	33	23	28
Stable	5	33			8	24	1	33	3	13	17	21
Incremental decline	1	7			1	3			3	13	5	6
Irregular	3	20	3	43	12	36	1	33	9	38	28	34
Intermittent					3	9			1	4	4	5
All	15	100	7	100	33	100	3	100	24	100	82	100

There is no support for the initial proposition that *firms in which existing resources or products dominate strategic thinking will frequently represent non-volatile change patterns, while strongly market oriented firms will more frequently represent volatile change patterns.*

Although the results of the cross tabulation of the results from the two previously independent analyses are interesting, no support was found for the initial proposition. It is possible that this is an extension of the findings by Havnes (1999) in that the different change patterns cannot be attributed to specific sub categories of firms, distinguishable by their generic properties. This paper indicates that the change categories, likewise, cannot be attributed to any specific strategies as related to utilisation of resources or networks. However, there are also other possible explanations which cannot be eliminated by these analyses.

1. The extent of the external network is one of the exogenous factors of Ahokangas (1998). There is possibly a strong modifying effect from this existing external network on the assumed volatility of the market influence. First of all, an existing network will tend to replicate its sources and types of information and thus overlook many of the new options in the markets. Secondly, network building is a slow process which means that the structure of the external network will change slowly.

2. The present paper combines analyses where partly overlapping, partly different variables have been used. Although this combination of results extends the previous scopes of analysis, the information embedded in co-variation of the variables will not be fully utilised before all the variables are analysed in a simultaneous model.

Returning to the question outlined by the title of the paper we find evidence for both of the suggested alternatives. The situation of the present-day exporting SME cannot be equated to adventure travelling in the early years of tourism. We have found strong elements of strategy, networking and resource allocation which indicate that these firms prepare for their venturing into export markets. On the other hand, we have also found that a large number of SMEs are managing large and individual variations in their export involvement, which indicate that the firms are pursuing their own objectives, not just following the examples of others like the externally planned voyages of present-day mass tourism.

From the practitioners' point of view, the consequence of this study is that strategic planning cannot be used to reduce variation in the development patterns of the firm. It appears that as the firms are subject to changes in the external environment, the role of management is rather limited in influencing external variation. However, the internal variation or uncertainty of the firm can to some degree be managed by pursuing a deliberate development strategy. It is indeed a matter of choice to decide what kind of development strategy to use in internationalising an SME.

From the researchers' point of view, the consequences of this research are twofold. Firstly, conceptualisation and modelling of longitudinal changes is fundamentally different in panel studies if compared to cross sectional analyses. It seems that contemporary measures of change in firm behaviour are not necessarily compatible with the assumptions that have to be made in longitudinal research. Especially in the pursuit to capture longitudinal causality in the processes of internationalisation, researchers need to examine their approach and measures carefully to avoid the problems caused by previous, predominantly cross sectional research. Secondly, our contemporary knowledge of distinguishably SME-specific internationalisation (process) behaviour seems still rather fragmented in nature. This problem is also partly related to the lack of longitudinal research, but basically it indicates that there is a need to examine the results of previous research from a temporal perspective. Indeed, as a result of these considerations, we want to put forward a general call for true longitudinal research in the field of SME internationalisation.

Appendix

There have been some alterations in the composition of the INTERSTRATOS group since it was founded in 1991. The present composition of the INTERSRATOS group is:

Austria: J. Hanns Pichler, Peter Voithofer
Belgium: Rik Donckels, Ria Aerts
Finland: Antti J. Haahti (Chairman), Petri Ahokangas
The Netherlands: Yvonne Prince
Norway: Per-Anders Havnes, Arild Sæther
Sweden: Carin Homquist, Håkan Boter
Switzerland: Hans Jobst Pleitner, Margrit Habersaat

In addition, a number of associated researchers have made valuable contributions by using the INTERSTRATOS data set in their research.

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¹ External in relation to the process.

² 499 employees was the defined upper limit of 'medium-sized enterprises' in EU when the project was started. This limit has later been changed to 249 employees (ENSR, 1996).

³ The first is analogue to the first derivative and the latter is analogue to the second derivative of a mathematical function.

THE RELEVANCE OF NON-FINANCIAL MEASURES OF SUCCESS FOR MICRO BUSINESS OWNERS

Elizabeth Walker, Kate Loughton and Alan Brown

Abstract

Much of the literature on small business performance has focused on identifying factors associated with growth and failure, and has usually relied on financial measures. Such research has also treated small businesses as a relatively homogeneous group when it is generally recognised that there are significant variations in the sector. One such sub-group are the micro businesses that typically have fewer than five employees, with many being owned and operated by self-employed persons.

This paper investigates measures of success in the micro business sector and considers the appropriateness of measures ranging from purely financial to non-financial. These non-financial measurements of success are outside the conventional economic paradigms, but may be more relevant to the personal objectives and goals of the business owner. These measurements are not substitutes for, but are complimentary to, financial goals. Interviews from a cross section of such businesses suggest that a range of measurements are used by owner/managers, with non financial factors playing an important role.

1. Introduction

The importance of small businesses both to the Australian economy (Howard, 1997) and the world economy is well documented (Frank & Landström, 1997; Goffee & Scase, 1987; Storey, 1994). Its importance lies in the number of businesses and their contribution to both employment and amount of dollars generated. As stated in the Small and Medium Enterprises Business Growth and Performance Survey, "almost 94% of all businesses are classified as small, 6% as medium sized and less than 1% large" (Australian Bureau of Statistics -- ABS, 1998a).

The definition of small (and its subset micro) business in an Australian context is as follows.

A small business is defined as a business which employs 20 or less staff in a service industry and 100 or less in a manufacturing industry. Further, a micro business is defined as being a business which is either non-employing or employs less than five people (ABS, 1998a).

Small business employs 60% (3.4 million) of the total Australian workforce (ABS, 1998b). In terms of dollars generated, for the period 1995-96 small business contributed \$75 billion to IGP (Industry Gross Product), which equates to 30% of total IGP (Purcell, ABS, personal communication, 31st July 1998). These figures verify the importance of small business to the stability of the economy.

Small businesses are often referred to in analogous terms such as being "the engine room of the economy" (Howard, 1997, p. iii) or "the seedbed for entrepreneurial talent" (Micro Business Consultative Group, 1998, p. x). These analogies give an impression of a large dynamic conglomerate of individual businesses all striving together for the same purpose and to the same end.

Often coupled with these superficial descriptions of small business are statements which implicitly link growth to these businesses, such as the statement made by the Micro Business Consultative Group (1998, p. X) "A vibrant and dynamic micro business sector is indispensable to the future growth of the Australian economy". This implies that all small businesses must be dynamic and experience continuous growth.

The logical inference is that, taken as a homogeneous mass, all small businesses want to grow and that growth is their sole measure of success. Is this so and furthermore is there a difference between the methods that owners of small and micro businesses use to measure their success? This paper will attempt to provide some insight into these two questions, based on semi structured interviews with eleven Western Australian micro business owners.

2. Background

Traditionally the success of any business has been equated to economic measures, such as increases in turnover, profit, ROI (return on investment) or increases in staffing levels (Brüderl & Preisendörfer, 1998; Gray, 1997; Kalleberg & Leicht, 1991). Jennings & Beaver (1997) sum up this economic method by stating, "Existing studies commonly define success in narrow accountancy terms using criteria based upon financial analyses and ratios such as sales growth, profitability, cash-flow and productivity" (p. 67).

One reason for the popularity of using economic measures is the ease in which they can be administered and also applied. They are very much 'hard' measures (Chell & Baines, 1998; Gibb & Davies, 1992; Ibrahim & Goodwin, 1986), as opposed to 'soft' measures which are more personally defined, such as job satisfaction (Parasuraman et al., 1996). However these 'hard' measures are easy to interpret and can be used comparatively against existing data and as benchmarks for future measures. These economic measures normally apply to general business but do they also apply to both small business and micro business?

The answer would be clear if small business was just a scaled down version of big business, but this is not the case (Burns, 1996; Keats & Bracker, 1988). Small, and consequently micro businesses, are unique. These businesses often do not use the same management processes as larger businesses (Jennings & Beaver, 1997). The idea that small businesses are different to larger business is not a new concept. The point was made in 1959 by Penrose (1980, p. 19) who said:

The differences in the administration structure of the very small and the very large firms are so great that in many ways it is hard to see that the two species are of the same genus... We cannot define a caterpillar and then use the same definition for a butterfly.

Given that differences exist between businesses in terms of their size, there has been little dedicated research into micro businesses as a discrete entity, with the exception of Baines & Wheelock (1998); Baines, Wheelock, & Abrams (1997); Chell & Baines (1998) in the UK and Deschamps & Dart (1998) in Canada. Baines and her co-researchers examined micro business in relation to its effects on family dynamics.

Part of the reason for the paucity of research is the difficulty of identifying micro businesses (Deschamps & Dart, 1998). There is a general lack of available data on micro businesses in Australia (Still & Chia, 1995) and the UK (Reid, 1995). Micro businesses have often been invisible, or not counted in official statistics of numbers of businesses registered, because they have often formed part of the 'black economy' in most countries (Birley, 1996; Carter, Van Auken, & Harms, 1992).

The majority of research which has focused on small business has incorporated micro business into the sample. The micro businesses are not treated as a discrete subset, merely as a small business. This is possibly because there has been an assumption that businesses which begin as micro will grow into the 'small business' category and therefore have not warranted individual attention. Again this would presuppose that all businesses want to grow. Most businesses do begin either as small or micro operations and many small business operators do have aspirations to grow their businesses. Running parallel to the businesses which have growth aspirations are businesses that do not want to grow. This lack of growth aspiration is confirmed by Rosa et al. (1996) and Burns (1996) who attribute this to the business owners achieving a "comfort level". It is acknowledged that all businesses need an acceptable level of turnover to survive, as stated by Marlow & Strange, (1994, p. 180) "All businesses must be financially viable on some level in order to continue to exist". However this level must be set personally by the owner and cannot be determined by an arbitrary dollar figure.

If there is a given level of financial security, which is personally determined by the individual business owner and with which the owner is content, what other criteria do they use to define their success? In this context small and micro business success is defined as the continuation of the business for as long as the owner wishes, at the same or a greater level of financial security.

One non financial measure of business success is a change in personal circumstance and which has led to the business owner measuring the success of the business by more affective measures which are linked to intrinsic lifestyle issues. These alternate measurements of success are outside the conventional economic paradigms, but may be more relevant to the personal objectives and goals of the business owner. These measurements are not substitutes for, but are complementary to, financial goals.

As Jennings & Beaver (1997, p. 63) state:

"contrary to popular belief, and a great deal of economic theory, money and the pursuit of a personal financial fortune are *not* as significant as the desire for personal involvement, responsibility and the independent quality and style of life which many small business owner-managers strive to achieve. Consequently, the attainment of these objectives becomes one of the principal criteria for success, as defined by the entrepreneur/owner-manager".

Historically research into small business has focused on why people start their own businesses and what characteristics these 'entrepreneurs' exhibit. The broad consensus is that people either start their own businesses because they have been 'pushed' into it, 'pulled' into or a combination of the two factors (Buttner & Moore, 1997; Cooper & Dunkelberg, 1987; Hamilton, 1987; Lawrence & Hamilton, 1997). Push factors are extrinsic reasons which the small business owner has little or no control over, such as redundancy. Pull factors are the more intrinsic reasons which the small business owner does have control over, such as seeing a potential business opportunity or a gap in the market. It is often a combination of the two which is the catalyst to the evolution of a new business. There has also been extensive research into the personal characteristics of small business owners to see if there is an archetypal personality (Bird, 1989; Brockhaus, 1982; Hisrich, 1986; Hisrich & Brush, 1986). Birley, (1996) and with Westhead (1994) has extensively researched small businesses to see if personal characteristics can be isolated in the effort to pick 'winners'. In general however the research is inconclusive (Gartner, 1988; Gray, 1997; Johnson, 1990). All sorts of people from a variety of backgrounds go into their own businesses and for a myriad of reasons. So if this is the case it could be presumed that all of these different people use different measurements to measure their success.

As stated, the traditional measure of small business success most commonly used has been financial criteria. However success can also be measured by non financial measures. Further, these two measures are not mutually exclusive but are more often a combination of the two. This would give three broad groupings. Group one which might primarily use financial measures, group two which might primarily use non financial measures and a third group which might use a combination of the both measures.

3. Methodology

As this was exploratory research, forming the basis of a larger study, a qualitative approach was the chosen methodology. This approach was used due to the paucity of existing research (Remeny et al., 1998; Sekaran, 1992). Sampling was purposive with the respondents meeting the established criteria of being a micro business, having an established business (as opposed to a newly formed business) and from a variety of different industries which would elicit differing views (Churchill, 1991). The actual interviews were based on a convenience sample, being a personal contact of the researcher.

The process involved semi-structured interviews with 11 owners of micro businesses. These micro business owners came from a variety of ANZSIC (Australian and New Zealand Standard Industrial Classification) codes (ABS, 1993), including both manufacturing and service industries.

The industries which the respondents came from were as follows.

Table 1. Nature of the sample

<i>Industry type</i>	<i>No of interviews</i>	<i>Female</i>	<i>Male</i>	<i>No of staff (inc owner)</i>
typesetter	1		X	2
subcontract bricklayer	1		X	1
wholesaler	1		X	9
retail shop owner	1	X		3
management consultants	2	X	X	1
accountant	1	X		4
staff trainer	1	X		3
drama teacher	1		X	3
construction project manager	1		X	3
hairdresser	1	X		4

The interviews were semi-structured, with similar questions asked of all the respondents. The questions covered demographics and broad open ended questions about what the respondents thought about their businesses. All of the respondents were asked how they measured their business success. The respondents were encouraged to elaborate and expand on any of the issues.

The basis for the questions was a combination of questions asked in previous studies, gleaned from past literature and questions which were developed by the researcher. The questions in this study were intended to illicit more in-depth information concerning the attitudes of micro business owners with regard to their perception of success.

4. Discussion

Before exploring the relevance of non-financial measures of success there is a broader question, which needs to be asked. That is, how do small or micro businesses measure their business success? As this was a small sample, generalisations about the group should not be taken as applicable to all small or micro business owners. The interviews represent an attitudinal snapshot of what some micro business owners feel about their business. All of the businesses were micro in size, with the exception of the wholesaler who had 7 full time staff. Three of the businesses were sole traders who worked on their own for the majority of their work. There were occasions when these businesses might engage in either collaborative or joint work but they principally worked independently. Two of the businesses had the owners as the main operators of the business, and who both employed two part time employees on a casual basis. The remaining five businesses employed either one, two or three other people plus themselves. Out of these five businesses, three were partnerships and the remaining two businesses had the owner being the sole decision maker.

4.1 Length of Time In Business

The length of time that the business had been operating appeared to impact on which measures the respondents used to assess their businesses. That is, the longer the businesses had been operating the less likely were the owners to use just financial measures as their primary measures. Their measures tended to be either a mixture of financial and non-financial, with an emphasis on the 'comfort level'. This aspect of the correlation of attitudes and measures of success and the stage that the business is at in its life cycle, is not the primary focus of this paper and will be expanded in more detail in the next stage of the research.

The business owners in this study who were still in the early stages of the business were much more money orientated than the owners who had been in business several years, in some cases well in excess of 10 years. The length of time in business ranged from one and a half years to 22 years.

Table 2. Length of time in the business

<i>Industry type</i>	<i>Length of time in business (years)</i>
Typesetter	7
Subcontractor brick layer	22
Wholesaler	7
Retailer shop owner	10
Management consultant (female)	5
Management consultant (male)	4
Accountant	12
Staff trainer	1.5

Drama teacher	13
Construction project manager	14
Hairdresser	1.5

4.2 Success Measurements

All of the respondents were asked how they measured their success. There was a general consensus that making money was necessary but that it was not necessarily the primary focus of either their business activity or their measurement of success. There was a broad spectrum of views ranging from pure economic measures to altruistic attitudes regarding the responsibility of small businesses to the community. The altruistic attitude manifested itself when two of the owners referred to being able to provide jobs and skills to employees or clients. There were four broad categories of measures.

The answers given to the questions and the comments expressed by the respondents reflect their attitudes towards both financial and non financial measures which they used for their own businesses. Some of the comments would place the businesses into one of the four categories. These categories are broad and are not mutually exclusive. There is some overlap in that some of the respondents made more than one comment regarding their attitudes towards both financial and non financial or lifestyle measures of business success.

4.3 Financial Measures

The first category of measures expressed by the respondents were primarily in financial terms. They were as follows:

"The bottom line is important, probably the most important" (the wholesaler)

"Increase in profit" (the typesetter)

Both of these businesses had been in operation for 7 years each, with the wholesaler having the largest number of employees in the group and the typesetter about to take on the equivalent of another full time employee. When making money was mentioned as a measurement of success it was often qualified.

"You don't go into business thinking that you don't want to make money, money is a motivator but so is success..... I measure my success by the volume of business we do" (the hairdresser)

The hairdresser employed three staff and had only been in business for 18 months but was already expanding into another business venture not related to hairdressing.

4.4 Financial and Personal Measures

Comments made by some of the respondents who stated the secondary importance of money, would fall into the second category.

- "I'm not in business just to make money. Money is not the be all and end all, its nice to be comfortable" (the construction project manager)
"Money is not a driving force, I'll never be a rich man but I expect certain comforts as I get older" (the drama teacher)
"Personal satisfaction is more important than just money" (the bricklayer)
"lifestyle is more important than financial rewards, given that there is acceptable level of income" (the accountant)

All four of these owners had been in business the longest, 14 years, 13 years, 22 years and 12 years respectively. They were also the oldest within the group, all being over 40 and two over 50. The attitudes stated and the ages of the businesses in this group contrast to the comments made by the businesses mentioned that fall into the first category.

4.5 Personal Non-Financial Measures

Some of the businesses mentioned above expanded on their measurements and stated factors that had no direct reference to either economic or monetary outcomes. These measures would relate to the third category.

- "Building a relationship with clients" (the accountant)
"Peer acceptance" (the drama teacher)
"Developing a reputation, job satisfaction" (the construction project manager)

All of these businesses had indicated that they wanted a 'reasonable' standard of living, which their businesses were giving them.

4.6 Altruistic Measures

At the other end of the continuum was the absolute affective personal measurements, which would be the fourth category.

- "Seeing other peoples (students) personal growth and development because of having been to the workshop" (the drama teacher)
"Helping young people to achieve a qualification and help the industry" (the staff trainer)

The staff trainer had been in business for 18 months, and whereas she was motivated by financial rewards and the trappings and status they gave her, she saw her business as fulfilling a community need. She mentioned the 'buzz' she got seeing people complete her course and become more skilled. This same sentiment was expressed by the drama teacher, who took a vicarious pleasure seeing people grow in confidence after attending his classes.

4.7 Lifestyle

It was clear that there were differences between how these micro business operators measured their success. It would appear that a level of financial stability was a requirement, but once that had been achieved some of the businesses did not have making increasing amounts of profit as their primary goals. The aspect of lifestyle appeared to be equally as important to most of the businesses. The respondents were asking to define what they meant by lifestyle.

Lifestyle encompassed such issues as having the ability to use the business and its assets to do things for personal satisfaction, such as playing golf during the week (the project manager) or being able to baby sit one day a week (the male management consultant) or being able to have a long weekday lunch once in a while (the retailer), not having to get dressed up for work everyday (the drama teacher). There was a general feeling of having the freedom to do what they wanted to do, when they wanted to do it.

The second theme to emerge from the interviews was that all of the people were in business to provide an income for themselves and to either support their immediate family or contribute to the family income, and for that to happen in a continuous way. To achieve that aim it was necessary for the business to continue to expand in some form. All of the owners acknowledged that their businesses needed to have some form of growth. However, not all saw that happening by employing more staff. For most it was by consolidating their customer base and then enlarging upon that. As some of the measurements of success were related to customers, most of the businesses saw the importance of maintaining a relationship with their existing customers.

4.8 Autonomy

The way in which these small business owners perceived their businesses perhaps indicated their business strategy. The majority of the small business owners saw themselves as "the business".

This is similar to the findings of Baines & Wheelock (1998). This meant that any form of expansion was limited to the owners being involved themselves and this would lead to less autonomy.

This was a potential dilemma as one of the main reasons for going into business in the first instance was to achieve autonomy. So if expansion, by means of increasing staffing meant giving up their autonomous state, it became a difficult decision.

As the owner of a specialist retail shop said,

"my business is unique, its difficult to get the right staff as they have to be just like me"

The bricklayer said,

"I've employed staff in the past, but you make just as much money on your own as when you run a team and you haven't got the headaches. If you are going to work your butt off you might as well do it for yourself".

Another comment regarding the difficulties of employing staff was made by the construction project manager,

"employing staff is a big responsibility, especially in this type of industry when your dependent on workflow and if there is a downturn then we have to lay them off. Its easier to be small then all we have to worry about the other business partners".

The last comment about employment comes from the drama instructor,

"The only way I can guarantee the quality control is to be the front person. I don't want to grow my business any bigger because I lose control"

An emerging pattern was that sole operators were the least inclined to want to expand their businesses by employing staff. Also the length of time in the business also determined the desire to grow by increasing staff. Some of the businesses saw that the logical way to expand was by increasing the staffing. This was the chosen method by small business owners especially in service industries where the intangible nature of the business made options for expansion limited. The accountant was happy to employ more staff as she saw it as the way to continue to expand the business and to also broaden the expertise of the practice.

5. Conclusion

Whereas the two questions asked were of a subjective nature it would appear that small business owners do not necessarily measure their success by purely economic rationale. All of the businesses wanted to have an acceptable standard of living (predetermined by themselves). However, for some of them once that was achieved and could be maintained at a continuous level they were not intent on trying to build the businesses to any discernible larger size. For these business owners the aspect of lifestyle was important.

The businesses which were more growth orientated were the businesses that had been in operation for the shortest length of time and were operated by younger owners. This aspect of the study does lead on to further investigation with regard to where these businesses fit into a business life cycle model. This will be addressed in forthcoming papers.

Further, some micro businesses do not want their businesses to expand to the stage that they have to employ other people. The small business owners who did not want to employ people did however consider their businesses successful.

It would appear that there are various ways that micro businesses measure their success, from purely financial aspects to altruistic, community focused ways. It is not the intention of this paper to state which aspect is a better measure, as the measurement in itself is subjective, dependent primarily on the micro business owner. What it highlights is the heterogenous nature of small and micro business and the need for further research. As this was a preliminary study further research into how micro businesses measure their success would perhaps provide greater insight. It might also answer the question of why some micro businesses do want to grow and why some do not.

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ENACTING ENTREPRENEURIAL VALUES TO ACHIEVE INTERNATIONALISATION: AN INTERPRETIVE PERSPECTIVE

Denise Fletcher

Abstract

This paper reconstructs the multiple global images, visions and values that entrepreneurs enact in order to achieve internationalisation. Central to the study is a processual view of entrepreneurship whereby entrepreneurialism is seen as a collective (and cultural) process in which enterprising values, activities and practices are continuously being enacted and reconstituted through exchanges and interactions. The relationship between entrepreneurial values, images of globalisation, and internationalisation strategies is examined through dialogue with Managing Directors of four, small firms. It is found that in engaging with images of globalisation, entrepreneurial values and internationalisation strategies are mutually constitutive of each other.

1. Images of Globalisation and Internationalisation Strategies

The general consensus amongst writers of international business is that internationalisation is constituted by a variety of transactions and exchanges that are carried out across national borders to satisfy the needs of individuals, customers and organisations (Rugman & Hodgetts, 1995; Czinkota, Ronkainen & Moffett, 1996). This is a useful generic view of internationalisation, which emphasises the importance of physical, information and technological exchanges and transactions occurring across borders in an international or global context. At the same time, however, the term 'globalisation' is becoming a familiar phrase within the business community although there is still a great deal of uncertainty surrounding its meaning and use in discussions of international business. From one perspective 'globalisation' as a concept is used to discuss physical changes in our understanding of world business markets. Terms such as the 'borderless world', 'shrinking world' and 'global village' are used to describe increasing interdependencies between nation states, organisations and governments implying a compression of the (physical) world of business facilitated by advances in technology which create ease of cross-border communications. At the same time, globalisation also refers to an intensification of consciousness of the world (Robertson, 1992) where, because of mass communications, this has the effect of breaking down national borders/barriers and encouraging greater awareness of and accessibility to competitors, suppliers, customers, lobbying groups, financial institutions and consumers all over the world.

Traditionally, empirical evidence has shown that larger firms are more likely to export due to barriers such as perceived lack of demand from abroad, regulation, red tape, trade impediments, cultural differences, lack of language ability, lack of management expertise, lack of resources, lack of marketing information (Barkema et al. 1996). However, whatever interpretation is given to globalisation all companies regardless of size face increasing complexity as globalisation forces become more intensified (Robertson, 1992). This is also the case now with internet marketing which means that even small firms (if they overcome the barrier of setting up a web site) have the potential to reach customers all over the world. Some studies argue, therefore, that those barriers which have been traditionally identified as preventing small firms from going international are being diminished and can be more easily overcome (cf. Misenbock, 1988; Aaby & Slater, 1989; Barkema et al., 1996).

The literature identifies a number of different ways in which small firms act entrepreneurially to differentiate themselves in order to achieve internationalisation. Studies range from behavioural, structural, planned, processual and learning approaches focusing on the role of market strategies such as product focus, innovation, customer service, product quality, pricing strategies and specialisation (Namiki, 1988; Kleinshmidt & Cooper, 1984; Aerts, 1992). Other studies emphasise the importance of timing of international market entry (Dichtl et al. 1990); level of experience (Cannon & Willis, 1983); age of the firm (Czinkota & Johnson, 1982; Smallbone & Wyer, 1984); key decision-maker's characteristics or orientations (Morgan, 1997) and managerial skills/international orientation (Solberg, 1997).

However, it is not the intention within this paper to review the different triggers to internationalisation. Instead, the main aim is to bring together perspectives of globalisation and entrepreneurship in order to examine how small business owners engage with images of globalisation and enact entrepreneurial values to achieve internationalisation strategies. Whilst the triggers and driving forces for identifying international entrepreneurial opportunities are wide ranging, central to the internationalisation process is the enactment of entrepreneurial values and practices. Entrepreneurship is about the ability "to bridge and create conversions between [cross border] spheres of exchange" (Stewart, 1989, p. 145). Success in bridging and brokering roles, getting access to global market information, having a global vision and building up international networks of contacts is, therefore, an important part of the entrepreneurial process.

So perhaps a way forward is not to view the two perspectives of global market strategy (standardisation v differentiated) as mutually exclusive. These two (apparently) contradictory views of globalisation are of only limited use in understanding the what, how and why of internationalisation. It could be argued that, in fact, both these perspectives (rather than being contradictory) actually flow from the same historical process (Cova & Haliburton, 1991) evolving towards something called a 'global culture'. This means that the phenomena and process of globalisation encourages the view that the world is becoming a single place or market. However, this does not point to homogeneity of markets, or a common culture as Levitt (1983) would argue, but instead highlights the need to recognise unity (of markets, customers) through diversity (Ohmae, 1989; Featherstone, 1991). From this perspective, therefore, globalisation is about creating various images of the international business world and is about being able to think global, being internationally recognised and yet being local responsive in a variety of social, cultural and political context. This implies the need for more multifaceted and complex models/frameworks of analysis which draw attention to the internal capabilities required to facilitate internationalisation (Goshal et al. 1997). More recent studies of international business are beginning to take account of the (often) complex and incremental process through which internationalisation strategies occur (Anderson, 1993; Calof & Beamish, 1995; Bell & Young, 1996; Buckley, 1996). Such views regard internationalisation adaptation and change as the outcome of a learning experience (Pettigrew et al., 1991). This means that internationalisation is much more processual, iterative and fluctuating and does not occur in sequential stages. This also implies that the enactment of entrepreneurial values to achieve internationalisation strategies is not created by a single person. It is here that a link with entrepreneurship is made.

2. Globalisation, Entrepreneurship and Culture

Traditionally, entrepreneurship has been seen primarily from the point of view of the person doing the 'entrepreneurship', where entrepreneurs are seen as special individuals with innovative skills who go out into the (international) market negotiating competitive threats and bringing about economic change and development through the combination of new technologies, practices and ways of thinking (Cantillon, 1931; Schumpeter, 1934; Knight, 1921; Kirzner, 1973; McClelland, 1987). However, more recent studies emphasise entrepreneurship as a process that is enacted within teams or groups of individuals (Kamm et al. 1990; Timmons, 1979). This is articulated by Gartner et al. (1994) who identified that the "locus of entrepreneurial activity often resides, not in one

person, but in many" (p.6). In this way entrepreneurship is seen not as an individual activity undertaken by one or two key creative people, instead it is a collective and team activity, whereby the sum of all the individual efforts is greater than the whole (Stewart, 1989). Whilst certain activities are not seen individually as entrepreneurial, when analysed collectively, they have the potential to become so. This perspective recognises the "ambiguous, paradoxical and contradictory nature of the entrepreneurial *process*" (Johannisson, 1990: 4). Such a view also acknowledges how entrepreneurship is enacted collectively through teams, networks, transactions, exchanges and interactions in a variety of different contexts from organisational to global. However, there is still a further important cultural dimension to these entrepreneurial interactions and conversions of exchange, which needs closer attention and enables greater insights into the inherent character of entrepreneurship.

As discussed above, entrepreneurship is not something that 'resides' in people, instead it is a process, which is constructed interactively through dialogue and discourse. It is constantly evolving, changing and being reconstituted through different experiences and new learning opportunities. Studies of entrepreneurial 'culture' can provide, therefore, some useful 'resources' for the analysis and understanding of entrepreneurial action in internationalisation strategies. To some extent, networks studies address how entrepreneurs construct (and use) exchange, social and production networks to facilitate access to resources, information and market opportunities (Boissevain, 1974; Tichy, Tushman & Fombrun; Aldrich & Zimmer, 1986; Birley, 1985; Butler & Hansen, 1991; Larson, 1992). However, in emphasising social relations this obscures the role of cultural aspects in shaping international conversions of exchange. What is important then is to examine how small business owners engage with images and 'understandings' of globalisation and enact entrepreneurial values to achieve internationalisation. In order to do this, it is important to evaluate how different values, beliefs, assumptions are aligned to produce (and re-produce) entrepreneurial cultures and practices within an international context. This evaluation is undertaken through interpretive research and is now discussed.

3. Re-Presenting Internationalisation Strategies through Interpretive Inquiry

The fieldwork material is presented in the form of mini-case studies based on an interpretive methodology. In studies of entrepreneurship and the small firm, qualitative, case study and interpretive methods are increasingly gaining credibility (Steyart & Bouwen, 1992; Bouchiki, 1993; Ram, 1994; Stockport & Kadadbase; Holliday, 1995). As these authors state case study inquiry has the potential to yield in-depth insights and rich description of organising practices within the smaller organisation. Face to face interviews have been carried out with the Managing Directors of eight small firms in a variety of sectors in the United Kingdom of which four companies (due to space constraints) are presented within this paper. The companies were not selected for their ability to be representative of their sector but for the extensiveness of their international activities and willingness to be part of an in-depth study. This approach is justified in that the research, at this stage, is exploratory, being primarily concerned with identifying key themes, discourses and emergent issues relating to internationalisation and entrepreneurship.

It is not the intention of the research to superimpose a theoretical framework with well-formulated hypotheses to 'test' empirically. The intention, instead, is to explore processes of meaning-making and ways in which global/international 'meanings' are spoken of through in-depth interviewing. Bryman (1988)'s suggestion for treating theoretical categories as 'sensitising' concepts which provide a general frame of reference in approaching empirical instances, is followed. The task, then, is not to seek for 'one truth' or complete theory to interpret the process of going global. Instead, the task is to recount the multiple realities, insights and experiences of international entrepreneurship as reported by those in the field. Selected narrative is presented to the reader in italics to facilitate the creation of new insights and modes of theorising but also to help strike a balance in reporting the 'other' in interpretative research. This allows for a concerted confrontation with theories (Gergen & Gergen, 1991) of globalisation and entrepreneurship and to bring situated understandings from one world to another

(Denzin, 1997). In this way internal validity is achieved as theorising occurs through engagement with the theoretical categories explored (Yin, 1989).

The interviews were based on a loosely structured interview schedule, which asked the Managing Directors to talk about the process through which their organisations became international. In most cases, the Managing Directors talked at ease and at length about their experiences. Interviews lasted between 1-3 hours and were recorded and transcribed. In allowing respondents to recall their experiences, the primary task of the researcher was to track and map their international business activity from start to date; record the discourse/language used, values attributed and meanings assigned to internationalisation; evaluate how (if) entrepreneurial values/practices are enacted at international level; and finally, investigate whether entrepreneurial values/practices are modified as a result of learning and experience in cross border exchanges. Four of the eight mini-cases are now presented. The companies are presented in terms of those with least experience and time involved in international activities building up to those with more experience.

4. Discussion of Cases

Case Study 1: Piles Construction Ltd.

Piles Construction was incorporated in 1994 and have grown to a £1.5m turnover in 5 years with gross profit at 38%. This company became international about 2-3 years after start up. The mode of exporting was initially indirectly through orders received from big UK construction companies to whom the company supplies and has a good relationship with in the UK. However, the company also ships out components directly from the factory and now does some direct exporting. Key Markets are Eire, Yemen, Belize, China. They currently generate 10% of sales from export but anticipate this to jump to 15% in the year 2000. They are also attempting to persuade their Swedish competitor let them make piles on their behalf which will significantly increase their export sales.

In the beginning the Managing Director was concerned to

".... get the product right, the quality issues and all that..... It's starting to happen now.... we have got past the early stage, we have had difficulties with money and people... cash is still tight". I think largely in small businesses, it's all very well you sit down and say we are going to do this but it doesn't work but as you plod your weary course through life opportunities come along and you have to think right if it looks a good one, grab it and work with it, run with it and see if you can make it go. That is what you do, you have to grab the opportunities as they come by you. But you have got to be wise enough to recognise them..."

A number of features are distinctive of the company's internationalisation process. Their key philosophy is to target a market where there is little competitive pressure rather than go in somewhere established and "start a competitive war [which] is no good for anyone". Secondly, because they were not known in the market they decided to pay all suppliers on time so as to build up good will, reputation and credibility with their suppliers and in the market generally. Another key aspect of their internationalisation strategy is 'taking every opportunity'.

For example, in China the company has a three-year business development plan which began with an invitation to visit China from an acquaintance and now Piles Construction have set up a business there. At the moment they are selling piles to the construction industry. However, the purpose of this business is to raise money to set up a JV to sell other components into China.

"It is like China, I said to myself, if you are going to sell piles you might as well sell them in the biggest market there is and when I go there I found that they did not even sell pre-jack pilings, so I have got to set up a whole industry in china, so I thought well here is an opportunity". But we won't be selling them for long, because the next thing we will put a factory in China to make them. You've got to and if all goes well we shall have a factory in China".

In response to a question "what is the key to success for your company?", he replies:

"There is not one sole thing that makes you survive, there are many things, but I think the culture thing is one of the most important things -- points to mission statement "becoming a world class company..... [means] having the values of honesty and trustworthy... it has paid us well in this country."

The company, therefore, is concerned with creating a culture that will give them leverage themselves in international markets although it is early days and there is some way to go. Hence, the Managing Director's comment "you can't use us as an example of a very successful exporter at this point in time, in two years maybe...."

Case Study 2: Health Care Products Ltd

This company is a Sales and Marketing company of O.T.C. health care products within the pharmaceutical company. Two partners began the company in 1993/4 and between them they have 27 years of experience working for large multinational pharmaceutical companies but knew each other as friends at school. In 1999, the company turnover is £0.5m and they employ 6 people. From experience and network contacts in Japan, they negotiated an agreement with a Japanese supplier to import an innovative 'patch' concept into UK with a view to establishing a stable UK base. However, things have really taken over off with a 1000% increase in sales, high profit margins and positive working relationship with the Japanese supplier and distributors. The Managing Director says:

"International sales was always expected to occur but was planned for, I would say, 1-2 years down the road possibly 2-3 years depending on how long it took to establish UK sales".

What happened was that the company began selling their first modified and re-packaged product from Japan into the UK by advertising in the trade press. However, as the trade press in pharmaceuticals is distributed internationally the company started to get export enquiries from day one. Again the M.D. talks about the importance of recognising and seizing opportunities:

"Now, with very limited resources both financial and personnel wise [just the two partners at this time] we had to make a decision, we would either close a door on the export opportunities to concentrate on the UK or accept that there are only limited windows of opportunity. Our concern was had we said no to something, was that opportunity going to be there in 1-2 years time when we wanted to do it. So we decided that, based on our experience, gearing up for international distribution was no big deal and that we would capitalise on the export interest straight away and that is what we did..."

The company found a UK distributor to look after distribution in the UK so that they could focus on international markets. They established two export markets very quickly Greece and Belgium, then Germany followed. Through respecting intellectual property rights their relationship with the Japanese supplier has grown and now they see Healthcare Products Ltd as having world exclusive rights to distribute a selected part of the Japanese product range with the potential to move some of their manufacturing to Europe with Healthcare Products overseeing this activity. Whilst, Healthcare Products are cautious about this, they are extremely optimistic about the future and are currently negotiating distribution deals in the Middle East, United States, Africa and Australia. Next steps for this company

are to continue with market spread but they are cautious whom they do business with and there are long negotiations and contractual agreements with their customers to respect intellectual property. Their experience with the Japanese company has taught them this and certain key values are looked for now in seeking new distribution deals. In a sense they are taking on some of the Japanese business ethics and working practices and at the same time nurturing these in relationships with their partners. They are looking to buy a sales company in the UK but will not open subsidiaries abroad because "if you have good partners they know their customers and this is best for everyone in the chain."

The key to their success focuses on two things. The first is:

"What is tremendously important is a view of the world. In order to be truly successful in this market you need a tremendous amount of money to bring yourself above even the background noise in marketing terms to make people aware of your product it requires an enormous investment and that sort of investment is not open to companies of our size. So what we doing at the moment is to look at into which niches our products can be placed, to establish a dialogue with them. They can revitalise what might be a tired product range..... They have the resources but they are missing the product and so long as we have innovative products we can fill that gap and that argument seems to be going very well."

Case Study 3: PC Peripherals Industrial Design Ltd

This company was originally started in 1942 and has been re-structured and 'split-off' many times and finally acquired in 1991 by Peripherals Industrial Design. The company designs and manufactures an innovative product for use in industrial applications. The company has a recognised world brand and is now one of the top ten world companies for this product. Since 1991 their turnover has increased from £150,000 to a peak of £3.8 in 1995 and has fluctuated between £1.5 and £2m between 1995 and 1999. Gross profit in 1998 was £300,000, although £200,000 of this was invested in new tooling.

In terms of early internationalisation the Managing Director recalls how this was an unplanned process:

"it is difficult for us to say when the company actually became international. Traditionally the business has been very much a global type business because it has provided a product which is very much a niche product historically and therefore this product was the only one in the world at this time so people had to come to us but the company wasn't proactive in gaining additional business internationally, it was more by accident through word of mouth, recommendations".

However, because the main market is the PC market and because of the huge growth in this market, since 1997, the company has been much more proactive seeking out international opportunities. The company currently generates 80% of revenue from overseas sales and operates in three currencies. Furthermore, the company has had a web-site for the last few years and cites this as a very powerful marketing tool (boasting 300 visits per day to the web-site). The company also undertakes sub-contract manufacturing and assembly of components to their specification in China because of the low unit production costs. It has a wide distribution network in all parts of the developed world ranging from Europe, Australia, S. Africa, United States, Singapore, Israel. Europe has 40% of the company's export sales, with the United States at 10-15% and approximately 55% to the rest of the world. In the past their main mode of market entry was to establish distribution agreements with carefully selected partners who are chosen for the ability to perform to stringent quality requirements. The Managing Director has personally visited every distributor he has in the world and comments that:

"All the basics have to be there: basic global systems, penetration in market sectors, technical capability, good quality... but the more areas you cover in the world, the more diluted the elements of similarity [between our businesses] become".

This implies that whilst trust is important in selecting distributors, other values are less important than the capability to perform to quality. Through analyzing the rate of growth in the market, the company identified Germany and the United States as their prime future markets, where they have now set up sales and marketing offices to promote the brand and follow through sales enquiries, give support to customers in these markets. The chose this mode:

"because we think our market penetration, sales and culture is quite specific and so the best way to establish that was to create our own culture. Our product is so niche, that we understand the selling requirements of our products and have to manage our customers and to manage the conversion from sale -- and we train our people such that they understand that and they become a seed in that market".

As a result the Managing Director has personally selected the two individuals who run these offices and carefully monitors, supports and trains these individuals himself. Also, the Managing Director has

"structured the company so that it appeared as an international organisation -- because we wanted to strengthen our position in the US market, we restructured ourselves so that the way we marketed and presented ourselves was as an American company".

This responsiveness to 'local' market needs has proved to be very successful for them.

Case Study 4: Database Software Company Ltd

Database Software was incorporated in 1980 by two accountants to develop software for accountants. In 1982 they merged with another company to take on the capability to undertake financial modelling. However,

"suddenly [we] found our market had gone [as Lotus came out with 123] so we were desperate, so we thought we had better get out there and find something. So we got on a plane, went to Comdex in Atlanta and very very lucky -- there is a big element of luck, we came across this very nice product and did a [licensing] deal within a month. Had to pay up \$50,000 mind you which we had to pay up. This was the start of the growth period and between 1984-89 the company's turnover grew from nothing to £18m -- very successful, very profitable".

In terms of internationalisation, the managing Director recalls that:

"In about 1988 we acquired an Australian company and an Italian company, so our forays into international world started in 1988 in those two countries and each one is a chapter in book".

The company also set up sales and marketing subsidiaries in S. America, France, Germany, Scandinavia, Canada, United States and Australia. Overseas sales accounted for about 60% of turnover with about 40% of this being in the United States. With the benefit of hindsight the M.D. would not set up sales subsidiaries again because:

"what happens is that in the growth phase you tend to want to own everything, and want to be in control..... But if I was to turn back the clock I would have partners [distributors] -- because they are responsible for their own issues. If you have subsidiaries all over the place, you have to worry about a dozen operations but with distributors you do not worry about their operations so long as they pay you. You help them sell, that is all that matters. But with subsidiaries you worry".

In 1992 the company was a \$30m business, employing 200 people. But then came a:

"major sea change. Microsoft came out with Windows the new operating system in 1992, then the product called Access, alongside Word and Excel, became standard on the desktop. Our attempts were futile. We then went into decline in 1993 and in 1995 started to close down our overseas operations and we were on the slippery slope to doom and gloom".

They closed or sold off their overseas subsidiaries which had never really made any money back into the UK because the people running the overseas subsidiaries kept it for their own businesses. Also, the M.D. recounted many stories about fraudulent behaviour from people who rang the subsidiaries and how, in fact, it actually ended up costing him money. After 2-years of discussions DataBase Company entered into a 50-50 merger with the American company.

"In 1997 we got some new technology which has been released into a slightly different part of the market and we are going into a semblance of growth mode now. We have a fabulous user base still for the old product, -- blue chip companies, customs and excise, banks and they are looking to move from that old technology for Dos into something new and that is where our old product comes in. So we are trying to sell our new product to those people. Today we have 70 people, we have offices in London, Norwich and Ireland and Connecticut. So we have had a rise and fall and hopefully a rise again".

The final comment from the Managing Director, based on his experiences:

"International business is very exciting which is why people like to do it. People love to do it, travel the world, do business with different people and that excitement lures you and pulls you in and that is why people get drawn in they take their eye off the home ball. It is very alluring. But you also need to be very cautious. Subsidiaries take a lot of management time, worry, big drain on the company. The problem with entrepreneurs is that they all think that [that] takes care of itself".

The company has now levelled out at about 70 employees and £4m turnover with exports staying the same. In the future the Managing Director plans to achieve growth more slowly and cautiously, only using established distributors as overseas partners and subcontracting more activities, particularly in terms of development work. Then he wants [with a laugh] "to let someone else worry about things".

5. Reflections

The mini case studies have been presented in order of their extent and level of international experience. However, certain key features are common to all the organisations. In all cases, the organisation firms did not anticipate going global as quickly as happened in practice. In part many of the early exporting activities were initiated as a result of the type of market being operated in (i.e. software, pharmaceuticals). However, in all cases the internationalisation process began with a series of opportunities presenting themselves and the lead entrepreneurs acting upon and taking forward these opportunities. It can be argued then that the internationalisation process was initially emergent and incremental. Following this, certain companies used the experience and knowledge to build up their activities in global markets in different ways: some by developing global distributor networks and some by developing direct investment in key markets (in terms of sales and marketing, or subcontract manufacture). In all cases the small firms were quick to learn about other cultures and change their working practices as a result. For those involved in close relationships with American and Japanese firms, this necessitated taking on board and nurturing their partner's core values/working practices within their own to the point that one company marketed itself as an

American company and another infused Japanese values onto its network of distributors. In all cases (with the exception to some extent of PC peripherals) cultural aspects were an important of doing business abroad. For Piles Construction they were just beginning to build their culture and were trying to enact this so as to leverage success and reputation overseas.

This exploratory study shows that international transactions are an experience of learning (both single and double loop) about conversions and exchanges in different socio-economic-cultural contexts. Single loop learning refers to the intuitive response to emergent and unexpected opportunities, the ability to handle cultural diversity, the willingness to build and maintain relationships in a cross-border context and getting access to market information. In all the cases studied within this paper 'single loop' learning was occurring, albeit in different ways, and was shaping the images of an orientation to 'global' and international business. Double loop learning refers to an international learning process wherein existing theories-in-use of the international (global) views of the world, entrepreneurial values and belief systems/patterns of action in international markets are continually being modified as a result of experience there (Pettigrew et al., 1991). In the cases studied degrees of double loop learning could be found but are more embedded in organisations with long time experience.

In conclusion, entrepreneurial activities, practices and values are constantly being enacted and reconstituted through exchanges and interactions. Globalisation and internationalisation merely provides another context within which conversions of exchange, interaction and learning occur. Thus, there is a close relationship between globalisation strategies and entrepreneurship in that they are mutually constitutive of each other. In enacting entrepreneurial values, an international opportunity is seized upon. Further international opportunities occur, incurring the sharing/negotiation and alignment of core values. It is argued that through processes of internationalisation entrepreneurial values are enacted and nurtured in an international context. Entrepreneurship is not something that 'resides' in people, instead it is a process, which is constructed interactively through dialogue and discourse. It is constantly evolving, changing and being reconstituted through different experiences and new learning opportunities. An interpretive perspective facilitates study of the multiple global images, visions and values which lead entrepreneurs and owner-managers re-construct (retrospectively) to make sense of how their organisations became international. In this sense, international strategies, images of 'globalisation' and entrepreneurship are mutually constitutive of each other.

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THE DEVELOPMENT OF SCIENCE PARKS IN ST. PETERSBURG (RUSSIA)

Alessandro Kihlgren

Abstract

Russian universities faced with severe budget cuts have been active in the creation of science parks in order to promote the commercialisation of in-house research and provide additional income for their academic staff. The first science parks were set up in the early nineties, but had to survive in a very difficult environment given the steep fall in the demand of innovation in the domestic market. Exporting has also been problematic due to the scarce knowledge of foreign markets and to the high costs involved. Due to this, just a few science park tenants are doing quite well. In St. Petersburg the number of jobs created in the science parks has, however, been significant. The main plus offered by these science parks to tenant firms has been, rather than the local scientific milieu, the support services available and the good quality accommodation, which nowadays are either unaffordable for small technology-based firms not linked with these structures or scarce commodities in Russia. A weak point has, however, been the scarce collaboration with local industries. This should be overcome with the creation of a number of innovation centres financed by the state whose aim is to produce technologies which can be utilised by the local industries.

Introduction

A new system for the financial support of science was created in Russia during the postcommunist period. This is based on a plurality of sources of financing, choice of projects on a competition basis with the help of independent experts and the introduction of a contract system for the realisation of state orders, but financing has been insufficient considering the dimension of the science sector. Budget allocations for science fell from 2.03% of the GDP in 1990 to 1.23% in 1997, but were as low as 0.82% in 1994 (Matveev, 1998, p.1). Considering that the GDP has halved in this period the reduction in financing for science amounted to about four fold between 1990 and 1997. The difficulties experienced by the science sector is emphasised by the fact that in Russia during the last few years the registration of patents has decreased by 4-6 times (Alekseeva, 1997, p.17). The creation of science parks responded to the need of the universities to overcome the vacuum following the destruction of the previous system in order to direct the research of academics towards the needs of the market at a time when the severe cutbacks in state funding obliged universities to find alternative sources of income.

The development of science parks in Russia.

Science and technology was thought to be one of the main assets of the Russian Federation, the basis for an economic recovery once it was no longer submitted to central planning. It was expected that this wealth of knowledge bequeathed from the Soviet Union would give rise to a boom in the creation of innovation companies and that foreign investment would flow in large amounts into the science sector, but both these expectations did not materialise. There was a boom in the creation of small science firms' in the early nineties, but it was short-lived. The number of small scientific firms increased six times between 1991 and 1993 (from 10,000 in 1991 to 65,000 in 1993), compared with a 300% increase in the number of small businesses, but decreased in the following years, while the total number of small businesses remained stable (Krutik and Ignatev, 1998, p.75).

In Russia the first science park (science parks created by universities will be subsequently called by the Russian name technoparks) was established in Tomsk in 1990 jointly by higher education, scientific institutions and industrial enterprises. Most of the technoparks have been set up under the state programme "Technoparks and Innovations" which aims at promoting the scientific potential of the Institutes of Higher Education. This was the first state programme for the creation of technoparks, but very few resources were allocated. For this reason just a minority of technoparks have reached an advanced stage of development. At the beginning of 1998 there were 62 university technoparks located in 51 cities. Seven are considered to be the technopark leaders comparable to Western science parks and 15 are in the process of reaching this level, while all the others remain at more elementary levels. More than 1,000 small firms are hosted in these structures (Lurie, 1998, p. 36). One peculiarity of Russian technoparks is that not all firms are accommodated on site due to space limitations. Some are located in the nearby university or in other structures connected with the technopark. In Russia technoparks are usually dependent on other structures, mainly universities. As a rule, the university provides the building, pays the current expenses and sometimes receives rent directly from tenants, while the state finances the purchase of some equipment and the reconstruction of the building. Yearly the federal programme provides support to the existing technoparks, but this support is rather meagre. Local bodies have not been very generous either in providing approximately the same amount of funding as federal sources (Lurie, 1998, p.39). St. Petersburg will represent an exception if its programme for the development of entrepreneurship is approved by the municipal assembly.

A new state programme "Activation of Innovation Activity", was approved in 1997, with the aim of creating a network of innovation centres in regions with high scientific, technological and innovative potential and a network of regional training centres for staff of small technology-based firms. These centres should provide suitable and non-expensive premises for industrial and office use, but at the same time have to be self-sufficient. In 1997 total financing for this programme accounted for 50 million dollars which allowed 7 centres to open (Davidova, 1997, p.VI). Four of them are linked with existing technoparks. Two of these centres were opened in Moscow and in St. Petersburg, and the others in Novosibirsk, Kazan and Ekaterinburg. By the end of 1997 the total space of these centres already utilised was 14,482 sq. meters in which 104 firms were accommodated with a total number of 1,557 workers employed (Spiridonov, 1998, p.2). One of the achievements of these centres is considered to be that the amount of taxes paid in that year turned out to be almost a third of the state financing received (Spiridonov, 1998b, p.2). These centres have proved to be a popular option for small technology-based firms. The problem of having empty space is rare -- on the contrary there is usually a waiting list (Ricev, 1998, p.73). As of the beginning of 1998 26 regional administrations and more than 10 federal departments have shown their interest in taking part in this programme.

Most of the innovation centres and technoparks in Russia are non-profit making organisations which, according to the statute, must re-invest any eventual profits to develop its infrastructure and the services to tenant companies, but their financial situation is not easy given the low demand for innovation products in Russia and the difficulties in attracting private investors. The highly technology-based industrial sectors are those which have fared worse since the switch to the market economy. A unusual feature of Russian technoparks and innovation centres is that the vast majority of them have originated from institutes of higher education, despite the fact that these accounted for only 6% of R&D personnel in the Soviet Union, while branch research institutes, where the bulk of R&D personnel was concentrated, have participated very little. This is because in the opinion of O. Melnikov (the vice-director of the technopark of the Technical University) the latter has suffered much more from the disintegration of the command system. For example, in St. Petersburg from the 66 project bureaux existing in 1990 which employed 27,200 people, by mid-1995 only 14 with a total number of 929 employees were left (Davidiuk, 1996, p.18).

The development of science parks in St. Petersburg

Saint Petersburg was the second scientific centre in former Soviet Union. About 20% of Soviet R&D expenditures took place in Saint Petersburg. Due to the industrial crisis and to the severe cutbacks in federal financing, the scientific institutions, more than 70% of which were in 1990 still connected with the military industrial complex, are nowadays experiencing a serious crisis. The number of scientific workers decreased more than twofold between 1989 and 1994 (Leontief Center, 1995, p.22) and continue to fall (Peterburgkomstat, 1998, p.6). Wages of scientific personnel are among the lowest of all branches of the local economy. However, the city still boasted 11% of the scientific organisations and 14% of scientific workers in Russia in 1996 (Ribakov, 1998, p.6) and had the highest proportion of workers engaged in science and education in Russia, together with Moscow, both at 10%. For this reason Saint Petersburg represents a fertile ground for the development of technology-based firms. It accounted for 16% of all small science firms in Russia in 1998 with 4% of the population (Leontief Center, 1998, p.10). Unlike Russia where the number of science firms has gone down since 1993 in Saint Petersburg the number of science firms has tripled between 1992 and 1996, in spite of the fact that the propensity of the Russian industry to innovate has continued to decline (Goxberg and Kuznezova, 1997, p.19). The number of science firms in St. Petersburg has subsequently stalled in 1997 and 1998. Statistics on firms' births and closures are not available, but according to some of the directors of the science parks the stall is the result of a widespread closure and opening of new firms, which rather than a sign of vitality is a consequence of the low level of development achieved by most science firms. The average turnover was just \$15,000 per firm in 1997 (Peterburgkomstat, 1998, p.15).

At the beginning of 1998 there were 2 technoparks and 3 innovation centres operative in the city, the newest of which was set up in 1997 in the framework of the programme "Activation of Innovation Activity". The oldest dates back from 1991 while the others were set up between 1994 and 1995. Of the 3 innovation centres one is located in one of the major factories of St. Petersburg named "Svetlana Plc" (this innovation centre will be subsequently called ICS), another in the Technical University (this innovation centre will be subsequently called ICTU) and the third in the Electrical Engineering University (EEU). Extensive interviews were carried out with the managing staff of 2 technoparks and 2 innovation centres in St. Petersburg. The innovation centre of the EEU was not analysed as it was in the process of being set up. Only one of these -- the ICS -- has a distinct juridical entity, while the two technoparks are subdivisions of two different universities, and the ICTU is managed by a non-profit making organisation, the Fund TBH, set up for this purpose in 1995, the same year of the creation of the innovation centre. Its founders are the State Fund for the Support and Development of Small Business in the Scientific and Technological Sphere (later called State Fund), the Technical University, a branch of the Academy of Science and a few private firms. The ICS, the only of these innovation structures not linked with any university, is also a nonprofit making organisation, which has been set up by the Regional Fund for the Scientific and Technological Development of Saint Petersburg (later called Regional Fund). The necessary conditions to be accommodated in these places are that firms must have a scientific nature. For scientific nature it is intended they must have a patent or a licence to exploit a patent.

The technopark of the Electrical Engineering University (this technopark will be subsequently called TEEU) set up in 1991 is one of the first technoparks in Russia and the very first in Saint Petersburg. The Electrical Engineering University where it is located is one of the oldest in Russia and a renowned centre of domestic science. This park is considered nowadays to be the fourth most important in Russia. Two of the first three are located in Moscow and the other in Tomsk. A formal procedure of admission to the park does not exist as any technology-based firm created by academics of this university is automatically a member of the technopark, while outside firms are not accepted. Firms generally continue to belong to the technopark even if they choose to leave the university and find premises in the city because it is advantageous for them to have their name associated with the university. It inspires more trust among clients. The technopark of the Technical University (this technopark will be subsequently called TTU) set up in 1994 is also aimed at favouring startups from university staff, but not all the technology-

based firms created by university staff are members of it. In the Technical University there are about 20 more technology-based firms created by its staff which have never requested to enter the technopark because in the opinion of the vice-director of the technopark they fear that the university might interfere in their activity. In reality, the interference in the activity of the tenant firms is minimal. No information on the firm activities is required by the university.

The innovation centres have a more commercial profile and, therefore, are more selective in the choice of the tenants as they have to become self-sufficient and repay the debts arising from re-construction of their premises. The target of becoming financially independent is, however, still elusive in the opinion of the director of the TBH Fund, while the ICS having reached the target of accommodating 20 firms by July 1998, half a year in advance, should have become financially autonomous. The factory "Svetlana PIC and the Technical University have pledged buildings which were renovated with state financing, the great majority of which was given on a returnable basis. These were previously vacated buildings which were adapted in order to meet the engineering and technological requirements of the firms. For this purpose the TBH Fund received financing from the State Fund, while in the ICS the capital expenditures which at the first of January 1998 amounted to about 1 million dollars were financed from the Ministry of Science --19% of the total -- from the city budget 23% -- and from the above-mentioned Regional Fund -- 58% -- (data provided by the V. Spivak director of the ICS). The requirements of the ICTU are that firms in addition to a scientific nature must be in a good financial situation. The director says that at present the centre can not afford to incubate new firms. Due to financial constraints it is necessary to have the guarantee that these firms will be able to pay the rent which is well below market value. The ICS has, instead, accepted both existing firms and new firms which were spin-offs from the Svetlana factory as one of the aims of the centre was to create a mutually advantageous relationship between the factory and the small technology-based firms. In the ICS tenant companies are chosen via open contests by the board of the innovation centre after an evaluation of the feasibility of the project. The agreement between the firms and the centre dictates that 60-70% of the turnover must come from high tech. Both innovation centres offer long-term rents (up to three years) which in Svetlana is subsidised for start-ups and goes up in relation to the increase in the turnover of the firm. However, in case a firm wants to leave the ICS and buy its own production premises the Regional Fund can act as guarantor on behalf of the firm requiring financing.

Specifically built premises are provided by 3 of the 4 innovation structures. All of them also offer shared rooms with office equipment (photocopy machines, fax and computers) which are freely available for tenant firms, but in the TTU case these services are utilised only by the firms located nearby due to the great distance of some of the tenants. Technoparks also give the possibility to rent university equipment on an hourly basis. The total space occupied by the TTEU is 4,527 sq. meters. It has a main building of 1,000 sq. meters, built in 1994 with state financing, where research and small-scale production can be carried out. Here there are 12 firms, 8 of which are involved in industrial production, while the remaining firms are located in the departments of the University. The ceiling set by the technopark regarding the number of employees is 20. The cost of the rent is about half of the market price. The policy of the universities towards tenants is very accommodating. Sometimes, upon request from tenant firms, reductions in the rent can be conceded. This is usually done for firms which have just been set up or in cases where firms have liquidity problems which according to the technopark management can be rectified in the future. In the TTU tenants do not risk being thrown out of the premises occupied even if they fail to pay the rent. In this case an alternative solution is considered. For example, they may do some work on behalf of the university. The TTU has never benefited from any state financing and for this reason it is rather underdeveloped. It does not have its own building to house the tenant firms, which are scattered around the university. Much larger are the premises of the innovation centres. Svetlana occupies a space of 4,500 sq. meters in an up-to-date production building inside the Svetlana factory, one of the city's largest instrument-making manufacturers in Saint Petersburg which in 1998 was working at 20% of its production potential. The factory has, indeed, a very run-down appearance. The ICTU was set up in 1995 in a building belonging to the Technical University which was heavily

damaged by fire a few years before. Up to mid-1998 3,500 sq. meters had been reconstructed and a further 2,500 are planned to be ready for 1999. In addition to the standard services in the ICS it is possible to have access to information networks and remote databases through optic-fiber cables, to make joint use of the testing and other technological equipment available in the centre, and even to buy this equipment, while the ICTU offers few facilities, just a common room with some office equipment and a conference room, as almost all tenants are in a financial position to be able to afford to buy the necessary equipment themselves. For the same reason they do not rent equipment per hour as in the technopark of the same university. The equipment of the university is in any case judged to be too old to be of any use to the companies.

Consulting is provided by staff of technoparks and innovation centres usually free of charge. They are mainly involved in managing the park and providing consulting in business planning, in the search for financing and partners on behalf of the tenants and in organising participation at various trade fairs, but participation in the management of the tenant firms is very limited, unless specific assistance is required usually when a firm is experiencing serious difficulties. In Russia financing for technology-based firms is provided by a number of state and foreign funds, while banks have shown to be very reluctant to concede loans to small firms and especially to newly set up firms. Innovation centres have a larger staff because they also have to supervise the reconstruction of the building and to prepare the premises according to the requirements of the tenant firms. The ICS is managed by the Regional Fund which has about 13 people in its staff, while the Fund TBH which manages the other innovation centre has about 10 people, and the TEEU has 2 full-time employees and 8 part-timers. In the Technical University there are 3 staff members with duties concerning the technopark, but in reality only the vice-director is actively involved in the management of the technopark. The technopark at the Technical University clearly suffers from a lack of financing and is only able to offer a limited number of services, but it has nevertheless been successful in providing finance for tenants. This technopark hinges on the figure of the vicedirector who despite his age -- he is more than seventy years old -- is still very active and has a wide network of contacts in Russia and abroad.

In addition to its own staff the TEEU also has an infrastructure of support for small businesses made up of seven firms which provide consulting in business planning, accounting, marketing and transfer of technology in both the domestic and foreign markets. These firms also publish educational and scientific literature for tenant firms, certify and test scientific products in conformity with domestic and international standards, organise training for quality control managers in accordance with the ISO-9000 standard and management training in collaboration with the Catholic University of Louvain (Belgium). The technopark also gives the possibility to the tenant firms to participate in several national and international trade fairs at the expense of the State Fund. Consulting by these firms is given as a rule at a price which is below market value. Collaborations have been realised by the park in the fields of environmental monitoring with firms and science parks in Germany, Finland and China and in the promotion of innovative products in international markets with several foreign firms specialised in these subjects. The ICS and the ICTU also offer to their tenants a wide range of information and consulting services comparable to those provided in Western parks, but have to rely on the Regional Fund and the State Fund for the provision of most of the services to the tenants. A training centre is also operative in the ICS in which more than 200 people have been trained. Given the more commercial orientation of these structures these services are provided at cheaper rates for firms at the early stages which are not yet self-sufficient, but reach market level once the firm is well developed. However, in the ICTU up to now the request for consultations has been rather modest, as tenant firms are already quite developed. Sometimes firms themselves have provided consultations to the TBH Fund regarding technical problems in the reconstruction of the building.

The number of firms accommodated in these structures varies from 10 to 45. No real interaction exists among firms of the TTU as these are scattered around the university often at great distance from each other. This is true also for the firms located in the ICTU given the fact that all work in different sectors. Networking among firms is instead more developed in the TEEU as there are more firms working in the same field. In the TTU the number of firms

has grown from 3 in 1994 to 11 in 1998, 7 of which are technology-based firms, while the remaining four belong to other sectors and have been accommodated in order to cover the expenses of running the technopark. All, but one of the technology-based firms, have been set up by university staff, who have continued to work for the university. Eight patents, 3 of which belonged to enterprises which have closed up were registered up to October 1998. In the development of innovative projects the firms utilise the industrial equipment in the faculties where the academics turned entrepreneurs teach. The equipment is rather old -- the average age being 10 years -- but neither the firms nor the university can afford to buy new equipment. Budget allocations for the university are just enough to cover personnel expenses in spite of the fact that salaries are very low -- below the Russian average. The turnover of these firms varies from \$10,000 to \$200,000 per annum and the number of employees from 4 to 30. In total about 150 people are employed in technoparks' firms. The low turnover per head of staff testifies to the scarce development of these firms up to now. Now only a couple of firms are prospering. The turnover of the other firms is at best stationary and at worst in decline especially for the producers of medical equipment, as the budget allocations for health in the city budget reached a record low in 1997. Three out of the five firms which closed in 1996 and 1997 after about three years of existence also produced medical equipment. Given the limited possibility to sell high-technology products domestically nowadays the vice-director is striving to find clients abroad. Several contacts have been established with foreign companies, but only one firm was able to find customers abroad. This firm builds, reconstructs and improves the efficiency and ecology of boilers in thermoelectric stations. It has worked in Poland and has recently signed new contracts to work in the Czech Republic and in China.

The financial situation of most of the 45 TEEU tenants is not much different. According to the director 15 firms have been successful, while seven of these firms are doing very little and the others just survive. The most successful firms had a yearly turnover of \$1 million and \$300,000 in 1997, while the average turnover was close to \$50,000 in that year (Kiselev, 1998, p.4). Despite the difficult economic environment the amount of jobs created has been significant. These firms have created 200 full-time jobs (4 on average per firm) and 1,400 part-time jobs (28 on average per firm) (Innovations, 1998, p.27). Most of the part-time workers also work in the university. All but a few firms have as their main market the Russian Federation. Only 5-6 firms have been able to find a market abroad.

The average turnover of firms in the innovation centres is much larger than in technoparks. In the ICS the average turnover is \$130,000 (Fursenko and Nikkonen, 1998, p.4), while in the ICTU is \$240,000. The higher turnover compared with technoparks is due to the fact that innovation centres are mainly aimed at firms which are already quite developed rather than at start-ups. The average number of people employed is also much larger. It is 25 per firm in the ICTU and 12 in the ICS. All the twenty small enterprises accommodated in the ICS by July 1998 have become financially self-sufficient. The ICS centre was declared by the Ministry of Science to be the best innovation centre in Russia giving it the right to receive loans at favourable terms in order to realise new innovation projects. The success of the centre is emphasised by the fact that according to an estimation of the number of small firms interested in becoming tenants the centre will have to more than double the available premises to 10,000 sq. meters. The only disappointment has been the weak relationship between the innovation centre and the factory where it is located. This despite the fact that some of tenant firms were spin-offs from this factory (Eskin, 1998, p.6). The management of the factory hoped that the companies belonging to the innovation centre would provide additional work for the factory and that it would be possible to create joint ventures between the factory and the small technology-based firms with the objective of utilising their R&D in production, but this has not taken place yet. The ICTU hosted in October 1998 ten technology-based firms with a total number of 250 workers, but the objective is to accommodate 20-30 firms. In addition, at present there are 14-15 firms which receive consultations from the TBH Fund, but are located elsewhere. Two firms have left the centre in the past years, but this was due to financial difficulties. The ICTU does not have a stated profile of activity. Tenant firms are all mature firms set up 5-7 years ago which work in different sectors. Almost all of them have two different activities. About half of the firms were created by staff of the Technical University. In total 6 of the 10 firms have some kind of collaboration with Western

partners. Two work only for foreign clients while the market of the others is confined to the Russian Federation and in a couple of cases also to the Baltic States, the Ukraine and Belarus. Two firms are very small, one having only one employee and the other four employees, but the four biggest are relatively big for the usual standards of innovation centres having 31, 36, 50 and 61 employees. The most successful is a firm of software production which employs 61 programmers and occupies an entire floor. It was financed by a group of American business angels and works exclusively for a software house in the United States. Software production is one of the fastest growing sectors in Russia. Some of the biggest software houses in the West outsource to Russian companies the development of software and Internet tools taking advantage of the abundance of well trained engineers.

An assessment of science parks in St. Petersburg

As a rule, the objectives of science parks can be divided into four categories (Broadhurst, 1993, p.35):

- the creation of new enterprises in order to generate new jobs and wealth.
- the transfer of technology from academic institutions to industry.
- the commercial exploitation of existing or newly developed technologies.
- the realisation of income for the founders and the increase in the value of the premises.

The fourth point in Russia can be applied only to the most advanced science parks which offer high-quality accommodation where rent is close to market levels. Regarding the second point, the transfer of technology to industries has up to now been weak. In Saint Petersburg some success has been achieved only by the ICS whose technologies have allowed the creation of 300 jobs in the local industries (Fursenko and Nikkonen, 1998, p.4). Subcontracting of research to tenant firms on the part of industry is also very rare. In the opinion of B. Salov, editor of the magazine "Innovation" located in the TETU, the major industrial firms might be interested in subcontracting research, but their economic condition does not allow it. Even in the few cases in which research has been subcontracted, payment difficulties have arisen. It is very hard to assess the net contribution of science parks regarding the other points as comparative statistics on technology-based firms in and outside parks are lacking. We can not judge the effectiveness of these science parks from the rate of surviving firms as some of these firms are almost inactive. In Russia the mechanism for bankrupting firms is hardly ever applied. The amount of jobs created by the technoparks' firms has, however, been significant considering they are all newly-set up firms. In general, we can say that these science parks have demonstrated that through their leverage on public and private resources they have been successful in providing financing for tenant firms, but have not yet demonstrated an ability in promoting self sustaining growth exploiting local innovations and the production of new knowledge. However, this task is almost impossible to achieve considering the current economic conditions. The realities of the declining Russian economy mean that there is very little demand for high-tech products. The number of firms which have passed to the stage of serial production is very limited. The majority of firms in technoparks would be classified as rather soft according to the Bullock model, while in innovation centres they tend to be harder due to the policy of accepting mainly firms which are already developed. However, even in innovation centres the average turnover per head is just \$10,000.

Contacts with foreign partners have become more and more frequent as in the last few years science parks have participated in several international trade fairs and conferences. A network abroad is already quite developed in the TEEU. However, up to now technoparks have not been very successful in attracting foreign capital nor in finding markets abroad. In the TEEU there are 3 joint ventures, while in the TTE none. This applies less to innovation centres because of the above-mentioned policy. At present the commercialisation of high-technology products in foreign markets is hindered by the fact that the costs of acquiring the necessary certificate and patent is very high for the average high-tech firm. For this reason only 1% of Russian patents are registered abroad (Alekseeva, 1997, p.17). Another obstacle seems to be the lack of marketing skills which is one of the major weaknesses of these

technology-based firms. Usually they can not afford to have a marketing department and even if they can they earmark few resources for this purpose. It is still not in the mentality of Russians to spend money on marketing. In Saint Petersburg the role of science park managers is primarily to market and manage the park, while business assistance to the tenant companies has been limited to consultations on the drawing up of business plans and on the search for financing, partners and markets abroad. They are generally content with maintaining a general interest in the activity of the tenant firms, but participate very little in the management of these. All the information they generally receive from tenants are data on turnover, personnel and taxes paid. On the other hand tenants seem to be reluctant to provide anything but the basic information required to outside people and seem to take into little consideration the need for consulting in fields such as marketing. The limited consulting provided is in contradiction with the concept of science parks, which is to assist new entrepreneurs in order for their firm to succeed, since a good proportion of these have a technical background and little or no management experience. In science parks around the world this is precisely one of the main reasons why companies locate in these places. However, even in the U. K. the utilisation of management advice was found to be very limited in some science parks, even if tenant firms were experiencing difficulties, and in a few almost non-existent (Monck and others, 1988, p.190).

What distinguishes Russian science parks from their Western counterparts is the very unattractive surroundings. While Western science parks tend to be spacious, attractive and well-landscaped Russian science parks do not look very attractive from the outside, as they are located in run down areas (Svetlana, TBH) or in simple buildings in the university, but currently this is not seen as a handicap. What counts for the entrepreneurs is the infrastructure of the park. Innovation centres and the TEEU for a limited number of firms provide the possibility of renting, for several years without the risk of being thrown out at short notice, premises tailored to the requirements of the tenants at a price which at least initially is often below market rates. Other pluses are a guarantee of a reliable supply of energy, a common security policy which protects tenants from undesirable visitors and also the supply of other facilities. Nowadays modern buildings and up-to-date infrastructures are scarce a commodity in Russia, and even if their supply is increasing the prices are unaffordable for most newly set up firms.

Indeed, it seems that in Russia firms might find science parks attractive not because the local scientific milieu is important for their operations, but because these places offer a range of services and good quality accommodation. Science parks can be seen more like service organisations providing a range of business support facilities to technology-based firms than scientific centres of excellence. This even if it may not have been the original aim of the founders of such structures it may nevertheless represent a significant contribution to the development of technology-based firms. It must be noted that world-wide many science parks can be covered by this definition not having lived up to the most optimistic expectations of producing leading-edge technology (Autio and Klofsten, 1998, p.33).

Conclusions

The creation of technoparks in universities responded to the need to overcome the lack of experience in world-wide technology co-operation and competition and lack of skills in marketing, design and financial management in order to assist "would be" entrepreneurs in the technological sphere. Despite the severe demand constraints the firms incubated by technoparks have provided a discreet number of jobs for academics. It is presumable to think that without the assistance of these structures many of these firms would not be created and would not have been able to receive financing to continue their activity. The possibility of receiving consulting does not seem, however, to be exploited in full. For example, marketing is little requested by tenants despite the fact that few employ specialists in this field. The weak point of the existing technoparks has been the scarce collaboration with local industry. The second phase has as a promoter the state which through a special programme "Activation of Innovation Activity" has financed the construction of state of the art innovation centres, whose aim is to make technology-based products which can be used by the local factories. These innovation centres are not necessarily linked with a

university, but may or may not be linked to research institutes. Innovation centres are still in the initial stages of development and it is too early to judge whether they will be more successful than technoparks.

Notes

¹According to Russian statistical bodies a science firm is a firm involved in research, development and production which has not yet developed to the stage of serial production.

² The term technopark is utilised to distinguish it from an innovation centre. The term science parks will be subsequently utilised in the Russian context to indicate both technoparks and innovation centres.

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QUITE PATENTLY A MYTH: COMMERCIALISATION OF PATENTS IN NEW ZEALAND

Andrew Cardow

Abstract

This research was conducted to ascertain the reasons for non-commercialisation of patents granted to New Zealand citizens between Jan 1996-June 1997. The Research discovered that 27% of granted patents did not get commercialised. That means 73% of granted patents did become a commercial success. The research goes some way to exploding pre conceived notions regarding the commercialisation of patents and suggests reasons why granted patents were not commercialised, and suggests methods in how to overcome these existing barriers to commercialisation.

The Aim and Introduction of the Study

The background for this research has its origins in the widely held ethnocentric position or shared understandings about Kiwi ingenuity Riely, (1995). For example, many New Zealanders hold that New Zealand companies both large and small have higher than normal rates of innovative tendencies Riely, (1995). In addition it is widely held among the New Zealand population that the number of patents granted far exceeds the commercialisation of these patents. This belief was illustrated in a telephone conversation with one of the New Zealand Crown Research Institute engineers who said that he believed less than 20% of all patents granted to New Zealand citizens were actually commercialised. In order to test this position a census survey was conducted of all patents held by New Zealand citizens and registered between 1990 and June 1997 and finally granted between January 1996 and June 1997. The study was only interested in the reasons for non-commercialisation of the patents, not the reasons or environment that encouraged innovation. The aim of the research was to uncover and suggest methods of overcoming barriers to commercial success.

This research was made possible in part from a grant by the New Zealand Society of Patent Attorneys. The survey results go some way to exploding the commonly held beliefs suggested above. Although myth busting was not the object of this research it does tend to dispel the notions that most granted patents do not see commercial success. Hopefully the findings will inspire inventors and those pursuing the intellectual protection of their device or process that there is hope for commercialisation of their ideas thereby turning those ideas into profitable reality.

It needs to be made clear that this research is based on information gained from the New Zealand Patent Office regarding patents first registered between 1990 and June 1997 and granted in 1996- June 97. It does not take into account any patents registered before 1990 or after June 1997. The study set out to ascertain where the barriers to non-commercialisation were and what needed to be done to eliminate, or reduce these barriers to commercialisation. Non-commercialisation was defined as failure to produce the item for sale, regardless of unit numbers. Commercialisation was defined as production, other than the prototype, which was intended for sale, regardless of actual sales or units produced. This seemingly pedantic terminology was necessary as many patent holders had developed a prototype but had not gone any further with their invention. This study should not be seen

as an attempt to measure innovative activity, rather it should be seen as a way to assist those persons going through the patent process on how to successfully commercialise their innovation.

Background

There are many stories that surround the ability of the inventor to commercialise his or her invention. The causes for success and the causes for failure are many. Along the pathway to commercial success an inventor may apply for a patent in order to protect him or herself from the premature commercialisation by a third party of their idea. While many inventors go down the patent path, many do not, or do not complete the patent process. (Brouwer & Klienkiecht, 1996; Geroski, Van Reenen & Walters, 1996) For those that do complete the process some are unsuccessful in translating their monopoly position into commercial reality, Wood & Brown, (1998) It is the reasons for lack of success in commercialisation in which this study is interested. We are told that many would be inventors find the costs of the process are too high and pull out or do not begin. Silverstien, (1994). We also read that mistrust of the market especially in the past has been a major factor in blocking the commercialisation of innovative ideas. Marovich, (1998). Further, some commentators believe that the problems of non-commercialisation lie in the inability of the inventor or the inventing company to form collaborative networks and integrative business practices. This inability to form networks has lead to a reliance on one sector or one source of funding for innovative activity. (Wood & Brown, 1998; Rainsley & Gaffney, 1997; O'Conner, 1998; Franza & Wildman, 1996)

Although patents are only one part of an organisations' innovative output they are perhaps the easiest instrument to obtain, and thus measure. The granted patent holds the inventor's name and address, the patent number, the invention type and the date of registration and final date the patent was granted. We are also led to believe from the myths outlined in the introduction that most of these patents granted do not see the light of day. By contacting holders of granted patents it was believed that we could gain information on why a patent was not commercialised and compare those reasons with the myth and the existing literature.

Methodology

A two-fold approach in gathering the information was undertaken. The initial phase was a census of all patents held by New Zealand citizens that were finally granted in June 1997, but were first registered between the dates of 1990-June 1997. There were 363 patents in this category. The telephone survey was conducted over two weeks in July 1997. The respondents were asked if, <<The patent (#) granted in 1996 was produce>>. If they needed further clarification they were told that <<produced>> meant produced for sale. An affirmative response terminated the conversation. However a negative response prompted further questions asking the respondent to outline reasons why the invention was not commercialised. Of the 363 patent holders that were in the sample 55 of them could not be contacted. This left a usable sample of 308. From this usable sample 85 respondents replied that they had not been successful in commercialising their innovation. This represents a non-commercialisation rate of 27%. This is an encouraging figure as this means that 73% of patent holders were successful in commercialising their innovations.

The reasons for non-commercialisation were recorded verbatim and then coded to form 8 categories. These reasons are outlined in table one in the Results section below. In the telephone survey the respondents were asked to give the main reasons for non-commercialisation as they saw it, not just a single reason.

The reasons given for non-commercialisation were broad in their scope. In an attempt to refine the reasons given a second survey was carried out. This second survey utilised a methodology suggested by Schockley-Zalaback & Morley (1989, 1994). The Schockley-Zalbeck & Morley method utilises statements constructed from the respondent's answers. It was believed that feeding the collected statements back to the group that made them and asking the respondents to indicate, on a Likert scale of 1-5 how well the statement applied to their particular situation, where 1= did not apply 5= applied fully, would uncover a more detailed set of reasons than the telephone census.

The statements in the second phase of the study were compiled by listing all the comments made by negative respondents to the telephone survey. Comments that were considered similar in meaning or duplicated were grouped together.

This gave a yield of 50 questions, or statements upon which the respondent was asked to comment. For example, question 48 was: <<Negativity towards people with ideas 1 2 3 4 5>>

The questionnaire was then sent to all patent holders who had indicated that they had not commercialised their innovations. The results of both the census and the postal survey are discussed in the following section.

Results

To reaffirm, this study did not examine the reasons for patent success, nor did the study look for preconditions in terms of product or process that led towards commercialisation success. Such information can be readily found throughout the literature on innovation and many writers for example; Marovich (1998); Tidd, Bessant, & Pavitt, (1997); Kanter, Kao & Wiserman, (1997) have all commented upon, and studied the factors relating to commercialisation of innovation. This study was interested in uncovering the factors that inhibited commercialisation.

Results of the telephone census

When coding the results from the telephone census a number of clear groupings emerged. Statements that appeared to be similar were linked together to form the 8 categories outlined in the following table. The numbers refer to how often that particular category was mentioned by the respondent as being an important block standing in the path of commercialisation of the patent. As such, any particular respondent could mention more than one category as being the reasons for non-commercialisation.

Table I. Frequency of Reasons for Non-commercialisation of Patents

Cash flow	Funding	Govt regulations	In Process	Liquidation	Market problems	Manufacturing Problems	Not for New Zealand
10	23	10	44	10	39	33	1

The main reason for non-commercialisation would appear to be that the invention is still being developed. This mirrors experience in the United States where it was found that an over emphasis on refinement and research leads to a failure to commercialise (Wood & Brown, 1998). The second ranked reason for noncommercialisation was a lack of clear marketing direction. Again this is mirrored in previous work regarding the commercialisation process (Wood & Brown, 1998; Marovich, 1998; Silverstien, 1994). The third equally ranked reasons for non

commercialisation appeared to be inability to find a manufacturer for the product, Cardow (1997), combined with a lack of on going funding for the project.

The above results go some way to exploding popular held beliefs why patents are not commercialised. The common expected reason for non-commercialisation is that the inventor has run out of money (TVNZ News, 1998). However the results from the telephone sample appear to suggest that funding was not considered as great a problem as finding a market, or finding a manufacturer to produce the innovation. Such results confirmed previous studies undertaken in New Zealand that suggested that commercialisation of innovation was more successful if undertaken with a particular market in mind and in concert with a collaboration of companies that could see the project through to fruition, Cardow (1997). The results of the telephone survey were unexpected. In particular, the high level of commercialisation success, and the dominance of manufacturing and marketing, rather than costs, as the reasons for lack of success.

Results of the mail survey

In order to understand and refine the census, the second stage of the research was undertaken. The results of the postal survey were not inconsistent with the telephone census. Funding issues were still only listed as one of the top three reasons, not the paramount reason. The results from this second survey only went a little way to confirming popular belief that cash or funding was the main cause of non-commercialisation. However the second survey also reinforced the finding of the census in terms of manufacturing and marketing, as well as highlighting a possible problem in terms of support for new ideas within New Zealand.

The results listed below are the top 10 ranked reasons from the 50 possible responses

Table 2. Top 10 Ranked Reasons for Non Commercialisation of Patents	
1	Company went into liquidation.
2	Too little cash flow
3	Nobody prepared to take a risk on a new product
4	Product is being fine tuned
5	Cost too high and too long between concept and realisation
6	Negativity towards people with ideas in New Zealand
7	Key person has left the business
8	Different designs are needed
9	Too much trouble finding a manufacturer
10	Costs too great.

If the above results are an indication of how inventors in New Zealand perceive their lot it is indeed a bleak outlook. The image one gets from the above table is one of the frustrated lone genius, slaving away for little or no recognition with limited monetary support. However such findings need to be placed in context. The above table only represents 27% of patent holders in New Zealand. In that respect, it could be inferred that most inventors are adequately served in terms of market, manufacturing, and capital resources. How then can New Zealand, and in particular the professional groups that assist inventors through the commercialisation phase, better increase the chances of commercial success beyond the quite high level of 73%. Such suggestions form part of the implications and further research section below.

Implications and Further Research

Commercialisation success is one of the major ambitions of the patent holder (Geroski, Van Reenen & Walters, 1996; Caughey & O'Boyle, 1994; Rainsley & Gaffney, 1997). There is also, however some myths that suggest that patents are applied for but not commercialised in order to stop the invention being released on the market (Riely, 1995). Within the terms of this research no respondent replied that the noncommercialisation of the patent was to stop or hinder future development. A quick glance at the two result tables above would highlight market factors, funding, and manufacturing as the major blocks towards commercialisation.

It would follow then that the removal of these blocks to commercialisation would greatly enhance commercial success. One of the most useful services that professionals servicing this area could do would be to build links within their customer base. In other words they could encourage collaboration and network building among their clients (Geroski et al 1996; Fieldman, 1994). Such networks, especially if clustered, can lead to co-operative work, pooling of knowledge, and technological transfer (Stevens, 1997; Bakeman, Kastelan-Mark & Vehovec, 1998; Franz & Wildman, 1996). As noted by Caughey & O'Boyle, (1994) <<The key to success is the existence of mechanisms that allow information to spread.>> Clustering and networking is not a panacea that overcomes all the ills of finding a manufacturer. However clusters could aid in cutting down on extended research and development and would go some way to reducing the time spent looking for a manufacturer.

Such activity does not address the aspect of finding a market. Many of the unsuccessful patent holders did not first seek a market for their product, rather they tried to make a market fit their idea. Such an approach could be a waste of creative effort, when with some help a creative team could be established. The purpose of a creative team is to assist the development of the device or idea Rainsley & Gaffrey, (1997), suggest such a process should involve not only the input of the inventor but also a financial, marketing, and manufacturing person, along with the patent attorney. This team approach need not only be for large organisations but also for the SME, by including such people as the business accountant, a local manufacturer, and a business consultant.

In the past, and if the results of this research are to be believed, many inventors went through a process of market research, and market identification before they developed or applied for a patent Marovich, (1998). The professional groups that are involved in the patent process are in an ideal position to aid their customers in finding markets through their own customer base.

In summary, New Zealand would appear to have a high rate of patent commercialisation. However these results are only taken from those patents granted. The research does not include those patents registered but not granted. The research set out to uncover why patents that were granted were not commercialised. The research is not a comment upon the innovative ability or rate of innovation in New Zealand, it is only a commentary upon the reasons for non-commercialisation of granted patents. The findings indicate that funding; marketing; and manufacturing are the main reasons for non-commercialisation of patents. In order to overcome these problems it is suggested that the

Patent Attorneys investigate ways to assist their customers through the patent process by establishing networks, and assisting in a hands on capacity through their involvement in the set up of a creative team.

This research is limited only to New Zealand, and only in terms of granted patents registered and finally granted in 1996. Further research is needed in a cross country comparison in order to ascertain if these results are due to cultural differences. In addition it needs to be seen if the rate of commercialisation of granted patents is similar in other parts of the world. Additional research could also be established in terms of the location and industry groups of granted patents. Finally this research does explode the myth that the majority of granted patents do not get commercialised, such knowledge can only be beneficial for those who are pursuing a commercial application of their ideas.

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PROFESSIONAL SKILLS AND INFORMATION TECHNOLOGY IN COMPLEX BUILDING REFURBISHMENT PROJECTS: EMERGING INTER-ORGANIZATIONS

Nicola Costantino and Guido Sivo

Abstract

In the construction sector there is an increasing number of small, but often very complex, projects that need many different contractors and professionals to develop them. In such context, a strong demand for adequate management and information tools supporting the development of the projects can rise. From the point of view of studies of management, there are at least two answers: the general contractor approach, and the professional approach of construction management or management contracting. On the technological side, information technology is offering a lot of new tools to improve multimedia communications in complex and "technological broadband" projects. Particularly, the BRICC project has developed and tested I.T. products and services able to solve the typical problems related to the lack of information links among the stakeholders of a building project. The paper takes into consideration the present demand of projects consisting in many contemporary building restorations and the evolution of the skills that building professionals need to face the most complex project and to use the new I.T. tools. Moreover, it presents an innovative approach currently being experimented by a primary Italian bank to carry out the refurbishment on a large number of small shops where new agencies will be located.

Introduction: the building market

Looking at the industrialized world, in the last decades, the construction sector has been subjected to a substantial evolution of products that have radically changed its connotation in terms of productive process -- and more -- in organization. The main lines of this evolution are the following:

a) Size of the "technological broadband"; in order to realize building structures, it is always very necessary to utilize an increasing number of different technologies developed in more industrialized fields, but always directed towards it, in terms of product component and sometimes of process support. In the last years, this tendency has been emphasized by the industrialization increase of the building components and by the integration in the building product, of functions that once were absent or carried out by appropriate "superstructure" that were later added: the building with its increase of different utilization, has become a product of a "large broadband" of technology (Costantino, 1994).

b) Refurbishment of the existing: until a few years ago the construction sector was prevalently based on new constructions. In the last years however, in all the industrialized world, a very sensible increase in demand for "refurbishment" of the construction, to the detriment of new structures has been noticed.

Considering the building demand, the combined effect of these two evolution lines creates a "new" segment of demand, globally considerable, and its main characteristics are the following:

- Average limited dimension of the single building (compared to those of the new realizations) (Costantino e Sivo, 1996 a).
- Highly specific complexity (technology and/or management): the small dimension (economical and physical) of the single building is, however, often correlated to high levels of complexity, in terms of both "technological broadband" and institutional bonds (Costantino e Sivo, 1996 b); this evolution, considering the problem of supply, has involved, among other things, an emphasis on the small contractor dimension (specialized) (Brochner, 1990).
- Substantial non-repetition of the single building: the enormous variety of the pre-existent estate, correlated with the increasing range of possible buildings, determines an unlimited quantity of possible operating context detrimental to the proposal of the same experiences, taking into account all the consequences in terms of scale economy and learning curves.

From this situation derives an increased emphasis of the service components (personalized) for the requested performances, compared to those properly called "hardware", that already had noticeable effects on the production organization (Costantino e Sivo, 1996 b).

In regards to the customers, the refurbishment of the building estate, at least until today, has been managed, in most cases, in a very residual and "occasional" way: considering the characteristics analyzed earlier, both in the past and in the majority of the new situations, the management of the single project is made by the suburban structures, renouncing to pursue a scale economy.

A new interesting line of development can also be found in the sector of private services that are spread across the country. For marketing reasons in the sector of services, unnecessary to illustrate in this paper, more densely spread structures of national or regional networks have been developing: the most dynamic banks reorganize the plethoric central branches (using the "outsourcing" for many services) and at the same time, they multiply the "windows" (small offices) on the territory; different types of commercial chains (fast food, clothing, etc.) take up offices in always more extended and differentiated urban areas, using a direct way or, more often, using franchising formulas. Considering these types of installations, the location is usually the most important characteristic. In regards to the quality, other characteristics are needed in addition to those mentioned above, however peculiar:

- The de-localization programs (banks) and/or new installation programs (commercial chains) often present very high quantity and contemporary characteristics; the consequence is that the economic and management importance is much bigger compared to the case of ordinary operational maintenance of a considerable and diffused patrimony, but consolidated by the dynamics of utilization and of management that are essentially "slow" and predictable.
- The marketing strategy of the commercial network requires the multiple *proposing* of the set operating formula, with the immediate *recognition* of the single local structures by the user-client.

For these reasons, qualitative and quantitative niches of demand with clear characteristics are assumed: considerable building budgets are today destined for the realization of a considerable number (tens, sometimes hundreds of new localization) of building transformation that, *alone*, are not very considerable, on real estates that originally are very different, but they are destined to assume, as much as possible, uniform final characteristics; in order to finish all of these processes in a very short time, it is necessary to have a very high coefficient of *contemporaries* between the individual realizations.

This demand, that in its total characteristics has many indisputable news, is stimulating on the front of supply demand, new configurations of realizations whose most important characteristics are, as we will see, both of organization and technology. This will involve, of course, new requirements regarding distinctive competence of the involved operators.

The inter-organizational configurations

As we have seen, the expanding of the "technological broadband" has been a phenomenon that has progressively interested the building sector for decades. The market discontinuity, its high localism, the extreme variety of requested competencies never had, moreover, consented to give an effective answer in terms of vertical integration by the building firm to this evolution of demand (Gunnarson e Levitt, 1982). Considering the building sector, Eccles locates three motivations to justify the use of the subcontract (instead of the vertical integration): the market extension, the dimension, and the complexity of the single building (Eccles, 1981 a).

It is then, developing an inter-organizational configuration that is the same for the whole industrialized world in which the general contractor (Dioguardi, 1983 a) becomes responsible for the entire work that the client has given to him (usually on contract). He also has to realize (possibly, but non necessarily) a part of the work by using his own sources and the remaining part, by means of as many "specialist" firms using outsourcing.

As was noticed some time ago, the relations between the contractor and the specialist firms are getting more and more repetitive (Eccles, 1981, b). Dioguardi, who studied this kind of configuration in a more systematic and in-depth way, gave the name of macrofirm to the network of firms only in part connected to the general contractor (Dioguardi, 1983). This phenomenon can be, in some ways, assumed in the theory of transaction costs (Williamson, 1975). In the inter-organizational configuration of contractor/macrofirm, the general contractor develops the professionals competencies concerning the project management besides those specific of a possible part of work made by own. On the contrary, the management of the distinctive competencies concerning single technologies of the product and/or process is delegated to the specialist firms. More than this fundamental function of "direction", the general contractor also has a contractual function, remaining at the same time the only interlocutor (guarantor and responsible, also in legal terms) in front of the purchaser client. In this way, the general contractor/macrofirm configuration behaves like the only firm, whose dimensions have been increased due to the increased capacity of coordination of the general contractor.

In more recent years, looking at international contexts (essentially the U.S.A. and the United Kingdom) characterized by different legal structures in managing contracts and warranties, alternative interorganizational models to the general contractor/macrofirm have been developed, with the birth of a new (relatively) contractor subject: the professional construction manager, who keeps the professional functions of the general contractor, but renounces to those of contractual mediation; he manages, on behalf of the purchaser, the work of the single specialist firms (no longer the subcontractor) whose cost directly weighs on (and of course, without the usual mark-up of the general contractor) the final client (Costantino, 1994). Withstanding this economical "reducing", it has not been at all demonstrated that the construction manager/specialist contractors configuration is better than the general contractor/macrofirm configuration (Dioguardi, 1996; Winch, 1987). Both configurations, in fact, still live together in the international markets, and there is always more of a conviction that they have complementary functions: the general contractor/macrofirm configuration seems to be more effective in "traditional" managing of sequentially managed projects (*first*, the project is developed in all its parts, *then* the whole contract is entrusted to the general contractor); on the contrary, the construction manager/specialist contractor seems to be more appropriate to answer to the application requests of the *concurrent engineering* in the building sector (with the formula called *fast track*): the construction manager contracts and manages, on behalf of the purchaser, single work portions little by little that the specific design is defined (Carbonara et al., 1997).

Independently from the substantial differences between the two inter-organizational configurations, it is clear how both the configurations bases their own competitive advantage on the recognition of the fundamental content of the professional competencies (software) regarding the services provided by the single firms (of direction, but also specialists) compared to the physical component properly called (hardware): all that has been seen above is obviously true, not only for the general contractor and the construction manager, but also for the specialist firms

that always, more often than not, do not sell as much as their own physical product (in site or in independent industrial factories), as the capacity to place, in the best way, industrialized components produced by others.

Information Technology in the building sector

In the sphere of the constant growth (in quantitative and in technological "broadband" terms) of the complex of building activities having as object the existing patrimony, an always more marked demand of process innovation has been felt, in order to better manage the complexity and increasing the productivity levels. Because of the progressive "dematerialization" of the added value in building and of the inter-organizational character of the productive structures, the requested innovation is principally, but not only, of organizational nature, since first regards the relations between the operators and in particular the communication processes (infra-firms and inter-firms) that are born between the designers, firms, subcontractor, components builders, clients (Irwing and Levitt, 1989).

According to Pietroforte, most of the information that is necessary to exchange -- between the various subjects -- during the building process (and much more during the design process) are referred to as "ambiguous or not well known situations" and they require synchronized and "rich" media, where "the word 'richness' refers to the complexity of the supported language, to the format flexibility, to the number of simultaneous communication channels and to the personalized level of the message." (Pietroforte, 1997).

More generally, considering the entire building sector, it is possible to notice that the interactions between the involved subjects are sensitive to concrete and positive developments thanks to the new instruments and methods for the work group recently developed by the *Information Technology* (IT.).

In fact, considering the building activity (and in particular the refurbishment activity), one specific problem is the necessity to manage increasing, informative flows not only coming from inside the single firms, but also, and overall, from the inter-organizational configurations: this introduces a further complication, due to the fact that we are in a decisional environment in which the very highly *interdependent* processes are entrusted to people, organizations and operative methods that are extremely *independent* between themselves (Tavistock Institute, 1966).

In Europe, the attention has been concentrated on the communication problems between and most of all inside the firms, in particular, using the research program BRICC (Broadband Integrated Communications for Constructions), started in order to investigate the possible applications of advanced techniques in the construction sector, having the goal of developing and experimenting products and services able to solve the problems connected to the lack of informative connections between the subjects who take part of the building order (Thorpe et al., 1995).

The research (financed by the European Community, with the participation of the general contractors and design structures from different European Countries) has carried out several base requirements requested by the users which has generated the so-called "BRICC vision" based on an organization idea in which all the participants share the use of a single design model, connected to a *database* that contains all the design and management information. The tested benefits of this organization form concern: a) improved access to *multimedia* databases and to the technical-design documentation; b) staying in the building site in order to ask advice, it is possible to directly contact designers and experts by using real time interaction forms; c) communications are more efficient between the different subjects of the productive process (Sivo, Diomede, 1996).

By the combination of these preliminary studies, a definition of some products and applications to be developed in the design was born and tested inside pilot experiments in real building sites (Popple, Towndrow, 1994). Assessing the effects deriving from the use of these products and applications has made it possible to optimize their uses and to design a final "architecture" (fig. 1 (omitted) in order to employ them in real organizational situations, according to the "BRICC vision" as before mentioned (Costantino and others, 1996).

The possible (probable) multiplication of informative relationships (overall in coordination terms) between different *individual* subjects (no longer necessarily subordinated to centralization of inter-firms informative relationships from the interaction formalized channels) seems to be in confirmation, further in empirical evidence (with particular reference to experiments developed in the BRICC field) of a interesting quantitative model developed by Malone (1985), that aims at justifying the historical evolution of the organizational forms (with particular reference to the "fundamental" categories of centralization/decentralization and function/division) in terms of *production costs, coordination and vulnerability* (that is adapted to the context evolution). In particular, according to Malone, the costs that are connected to the coordination include all the "overhead" associated to the decision of which jobs will be done by the operators, and they are proportional to the connection numbers between the agents and to the number of necessary messages for assigning the jobs. Assuming that "the widespread use of computers in organizations may substantially decrease the "unit costs" of coordination ... then coordination mechanisms that would previously have been prohibitively expensive will, in some, situations, become affordable." (Malone, 1985).

The opportunity to multiply these coordination mechanisms seems to be tested in particular, by the character of the "open work" (Eco, 1962) of the building refurbishment intervention for which the preventive phase of design definition cannot -- in fact -- completely separate from one of the following executions: the inter-organizational configuration and the client interaction and collaboration in defining and in executing of the building in a continuum that emphasizes the *service* characteristics of the supplied performance (rather than physical *product*). Detail design and execution develop themselves in almost a partially concomitant way (the concurrent engineering is often a *necessity*, even before being the appropriate *choice*), emphasizing the professional contents of the skills required to the single operators (and no longer to the single firm in its complex): "The age of information will accelerate the transformation process of building firms in service firms operated by professionals" (Dorsey, 1977).

The advanced management of the existing real estate: a case study; conclusions

A case study is now presented which refers to a complex refurbishment intervention on very extended and divided real estate, that represents an illustrative case of that new tendency of private and aggregate demand that has been discussed before.

The study of this case consented to notice and analyze "on the site" both the increasing demand in a specific typology of functional retrain of the spread real estate (characterized by a small-medium unitary dimension and by a high mass repetition of the standard work on a large territory scale), and the correspondent supply potential of the

firms using innovative modalities that involve and integrate the inter-organizational and technological aspects: these situations can both be placed in their respective backdrop "of tendency" previously described in this paper. The experience that we are referring to is, in effect, representative of an ample record of cases of realized programs that were recently approved by primary private purchasers who are interested in meeting the vast amount of clients in a detailed form, with an offer close to the place of residence and work, on the entire national territory: banks, specialized commercial chains and service firms (eventually working by using franchising formulas in order to amplify the potential of territorial diffusion), big firms for the cultural and show consumption have a common interest in starting a large number of retail outlets competing with even international outlets aimed towards the same consumers. The common element for these programs is, therefore, the extremely restrained time of the entire technical-business process that comes after the identification and acquisition of the commercial sites (pre-existing building structures that generally need to be redefined in terms of function and plant design and installation, also equipped with technical systems and personalized furniture).

In the case study, the technical-realization process appears particularly complex. The purchaser, a national bank, first reserved the pre-selection of a series of specialized suppliers and installers that were involved in high "sector-based specificity" performances (external and internal safety windows, alarm system, furniture for the "counter" place, etc.) with which, open contracts were drawn up based on technical specifications of product and on the relative economical-contractual amount (prices, payment modalities), but delegates the management of these firms to a *General Contractor* that is invested by a triple function of a) design; b) execution (for the all building works and for the assistance to the companies supplying/installers hired by the purchaser); c) general coordination and supervision.

This last function results absolutely strategic in order to respect the temporal objectives that were established in advance and to obtain the quality of the product -- it is generally at the maximum levels regarding the building sectors -- and a high capacity of the *General Contractor* is required. The staff organized by the General Contractor, must have varied and integrated competencies and designing knowledge (architectonic/ implantation/ structural), technical-management (direct production in building site/planning of the direct execution interventions and of sectioned working-building site supervision/quality control and safety guarantees during the process) and technical-administrative (orders of supply and/or of installation to the executors that are "differentiated" depending on the executive projects/control of the relative S.A.L. and of the invoicing/responsibility in approving possible variations during the process/final technical-administrative tests). The general program of the purchaser plans the realization at almost the same time of the several dozens of buildings all around the nation. Therefore, considering the realization of programs taking shape in such a high number of working sites decentralized on a large geographic area, the necessity to support the inter-organizational innovation -- that could be the above illustrated relationship "Purchaser/*General Contractor*/Specialist Executors/Designers/local Professionals" -- with adequate communication and information management systems (project/technical -- administrative/programmatic) able to process, transfer and share a large number of information in real time, limiting possible dysfunction, delays and consequent risks of a potential conflict between various involved subjects (fig. 2)(omitted).

In the activated process, a series of *critical* phenomena manifested and they are re-conductible, in first approximation, to the "occasionally" and complexity of the entrepreneurial correlation and to the extreme contraction of the available time for the activities of technique-design and realization. The whole process appears, in fact, compressed generally within a space of three/four total months for each building. This period starts from the consignment to the general firm that is the coordinator of the locals (it is complete of the relative functional approximate layout drafted by the local professionals and by the building authorization document) until the entrance in the business from the bank window (the opening to the public is preceded by a week of pre-starting of the agency, completed and free by any building work). It is clear that the sub-process "integrated designs" presents a potential criticism of general coordination that comes from different difficulty levels:

- industriousness of distance contacts between the people in charge of the design appointed by the general contractor (they usually work in one common direction office) and the specialist speakers involved in executive designs (a part of them is located right where the building site is and others are spread all around the nation);
- interest conflicts in trying to find technical solutions and building details of possible change from the standard reported in the contractual specifications of the purchaser (in this case, it is necessary -- as a further decisional subject -- that the Purchase Service of the purchaser can integrate or modify, under the guide of the General Contractor, the standard contract that regulates the relationship with the single operator that belongs to the own network of sub-supply);
- non-cooperating behaviors (or even "opportunistic") by people that participate in the process who sometimes try to delay the design definitions in order to postpone the starting of their own work in the building site (very often, several contemporaneous works in different geographic areas cause dysfunction in unorganized specialist firms).

This last sub-process design representation implicitly shows another management difficulty regarding the procedure given to the main coordinator firm: it is about the centralized planning commitment (from the same direction design site to the own main office) of all the activities in the building sites spread all around the territory: building activities under the jurisdiction of the General Contractor, plant structures, installations and supplying in work, preparations and secondary equipment.

All the activities planned by the General Contractor, if it is requested by the design, can be partially modified during the work (see the sub-process criticism above described), modifying of course the object of the single works previously planned, that is the relative modality of realizations: consequently, the General Contractor eventually needs to stop the work for a certain period of time in order to reorganize the new activities (new priorities, contemporaneously working steps acceleration).

Considering the complexity caused by the large number of contemporaneous works given to the single General Contractor and the high number of professionals, firms and designers involved in each single realization (or for a small group of works concentrated in close geographic areas), we notice -- in the end -- organization and management criticisms due to: a) communication problems (scarcity of information; misunderstandings; controversies); b) necessity of "remote" transfer of knowledge/competencies during the design and the execution; c) interface between sub-processes (design temporal program preventive and final counting safety plans realization of the shipbuilding industry); d) poor transparency, during the different updating phases in the process of technical-economical data by the General Contractor, compared with the different subjects involved; e) time/cost of transferred documents and transfer of personnel for technical meetings and/or in situ inspections.

Compared to these various problems common to a high number of programs of integrated works on "network of real estate" noticeable today around the country, a potential management approach could certainly be identified by using multimedia computer technology set in BRICC project, as we have already mentioned, opportunely adapted and personalized to the specific requirements and peculiarities.

Therefore, it could be very interesting to follow the expansion of this record of cases regarding the existing real estate, looking at the results in qualitative and quantitative terms of the inter-organizational evolution and the technological innovation that characterize it, in relation to: 1) effectiveness of the particular inter-organizational model selected in respect to the traditional configuration of general contractor/micro-firm (and to the complete adoption of the Anglo-Saxon model of professional construction management). 2) management effectiveness of the BRICC technological approach in the multimedia management of information fluxes in context with highly specific complexities. 3) impact of these innovations on professional competence that are individually and as a body expressed by the various entrepreneurial and professional subjects.

In short, these methodological types sensibly reduce the substantial existence of some "islands", like purchaser and general contractor micro-firms, among them, the information exchanges represent, in each sub- process, possible (and highly probable) criticisms able to transform, among the same micro-firms, every diacronia in deleterious overload, to the detriment of fundamental requirements of quality and respect of delivery time.

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¹ In this case, the diction is adopted by the purchaser in the contractual form; in reality, the role carried out by this subject is classifiable among those intermediates between the properly called general contractor and construction manager, with modality that are in large part re conductible to the French model called pilot (Costantino, 1994).