

# **Cryptocurrencies and the role of Initial Coin Offering (ICOs) in the entrepreneurial finance**

*Dr. Yannis Pierrakis, Small Business Research Centre, Kingston Business School, Kingston University London, KT2 7LP, United Kingdom*

## **Abstract**

Initial Coin Offerings (ICOs) have emerged as a novel mechanism for financing entrepreneurial ventures. Through an ICO, a venture offers a stock of specialized crypto tokens for sale with the promise that those tokens will operate as the medium of exchange when accessing services on a digital platform developed by the venture (Catalini and Gans, 2018). According to EY the total amount of funds raised via ICOs in 2017 was US\$4 billion, twice the volume of venture capital (VC) investments.<sup>1</sup> Despite its explosive growth, we know very little about this new phenomenon of entrepreneurial finance and its impact in the entrepreneurial process. Our research is therefore explanatory in nature and seeks to understand the role of ICOs in the entrepreneurial finance process and to compare ICOs with other alternative sources of finance such as VC and Equity Crowdfunding (EC). More particularly, we discuss the potential impact of ICOs in: (i) resource commitment; (ii) product validation and (iii) legitimacy of the new venture. We find that ICO backed companies unlike those backed by VC and EC, are in a very early stage of development. They validated their product in a similar way to EC backed companies, through feedback and input from the crowd and like IPOs they improve their legitimacy by creating a brand hype among consumers. Interestingly, the incentive to pre-join the token sale in order to benefit from token appreciation is an important differentiating feature of ICO models relative to conventional network effects. We conclude the paper by discussing potential implications for both entrepreneurs and policy makers.

## **Introduction**

As banks retrench in the wake of the great financial crisis (GFC), small businesses and start-ups have found it increasingly hard to access the finance they need to grow (Pierrakis and Westlake, 2009; Baldock and North, 2015; Mac an Bhaird, 2013). New providers of business finance are stepping into the space left by banks and are devising innovative business models, often taking advantage of new technologies and different sources of capital. One such model that has grown rapidly in recent years is Initial Coin Offering (ICO).

This relatively new application of blockchain technology allows a venture to raise money directly from the crowd by creating and selling its own coin or ‘utility token’, in exchange of future use of this coin to purchase the services and products the venture is aiming to create. Unlike traditional lending which is coordinated by a centralized institution (e.g. banks), ICOs are largely decentralized with individuals making decisions independently based on the information provided by the venture often in the form of a white paper (i.e. business plan). The platform facilitating the ICO serves as an intermediary between the individual coin buyers and the company selling coins. Once the coins have been issued, are transferred to the buyers

---

<sup>1</sup> <https://www.blockchaindailynews.com/attachment/993763/>

personal digital coin wallet and can be used to purchase the services of the company or can be sold to other buyers through a coin exchange platform. The price of the coin depends on the demand from the buyers.

## **Review of the literature on entrepreneurial finance**

New ventures require resources to succeed, and one of the most critical of these is financing (Gompers and Lerner, 2004). There are few, if any, dissenters from the view that by funding and supporting innovative companies which, in turn, lead to the emergence of new industries, the venture capital industry plays a crucial role in economic growth and job creation: “VC helps entrepreneurial firms to invest more than they would otherwise, grow more quickly, and sustain performance in the long term – even after going public” (Gompers and Lerner, 2001, p.62.). In recent years, crowdfunding has emerged as novel way for entrepreneurial ventures to secure funds without having to seek out venture capital or other traditional sources of venture investment (Mollick, 2014). The most recent entrant to the early-stage risk capital market, seen by some as a genuinely disruptive innovation that will fundamentally transform the market (Lipusch 2018), is the blockchain-based ICO. Although there is still some definitional opaqueness, an ICO can be defined as an open call “for funding promoted by organizations, companies, and entrepreneurs to raise money through cryptocurrencies, in exchange for a ‘token’ that can be sold on the Internet or used in the future to obtain products or services and, at times, profits” (Adhami et al., 2018, p.1).

## **Data**

We combined data from two widely accessed websites, as there is currently no industry standard data source (Howell et al. 2018) and we created a unique dataset of 1,671 ICOs. We used the ICOALERT<sup>2</sup> database for most variables and matched it with data on amounts raised extracted from ICODATA<sup>3</sup>. Our dataset contains detailed issuer data for the exchange-traded tokens, focusing on the future use of proceeds and on the distribution of token sale.

## **Results**

### *Resource commitment*

Using data on intended budget for use of proceeds, we are able to identify the development stage of ventures raising ICOs. First, we find that the most popular reasons ventures seek to raise money through ICOs is for marketing, product development, legal and operations. We performed a K-means cluster analysis, which is a non-hierarchical clustering technique and we identified five distinctive groups of ICOs that are placed in different stages of development. First, a group of ventures that are still at the development stage and seek to raise funding for product development (33.7 percent). Second, a group of ventures that mainly seek to raise funding for marketing purposes (16.5 percent). A third group of ventures that are still at the infancy stage and they are mainly looking to raise funding for R&D expenditure (14 percent). A fourth group of ventures are looking to raise funding for operation (5.6 percent). Finally a fifth group of ventures consists of ventures seeking funding for multiple reasons (30 percent).

---

<sup>2</sup> <https://info.icoalert.com/ico-data>

<sup>3</sup> <https://www.icodata.io/ICO>

Unlike companies seeking VC and ECF, our results suggest that often, projects funded by ICOs are in a very early stage of development.

### *Product validation*

Through the ICOs ventures do not only secure resources for product and company development but they utilise them to validate their products or services. The ICO provides the issuer with an early signal about consumer demand, which enables better informed investments in building the platform (Catalini and Gans 2018). Token buyers also perform some sort of due diligence. In other words, the screening process is akin to a “due diligence” stage that typically requires entrepreneurs to consider, and hopefully ultimately rule out, reasons not to go forward (Brockner et al. 2004). Unlike VC funds that use highly qualified experts to perform due diligence, the due diligence in the case of ICOs and in EC investments is done by the crowd. A special tool used by ICOs for this purpose is the ‘bounty programs’ where incentives offered to an array of participants such as promoters, investors and coin developers. Most ICOs in our database allocated between 5 and 10 percent in bounty programs.

### *Legitimacy*

Bruton (2002) found that organisational legitimacy may be understood as a resource, as well as a signal for resource assembly in entrepreneurial processes and activities. Firms may seek conferral of legitimacy from external sources through certifications or authorizations (Rao 1994). The token issuer typically reserves tokens for founders and employees, as well as to reward future platform participants for building applications or acting as market makers (Howell et al. 2018). In our sample, on average only 60 percent of total token supply is sold in the ICO to the crowd (crowdsale) while the remaining is mainly used for the above purposes.

Also like IPOs, the ICO can help create brand hype among consumers (Demers and Lewellen 2003; Howell et al. 2018) tokens can hasten network effects, which are often central to the marketplaces that ICO issuers seek to build. This advantage highlights the dynamic aspect of token value. This is emphasized in the model in Cong and He (2018), where expected token price appreciation leads more users to join the platform. The incentive to pre-join to benefit from token appreciation is an important differentiating feature of ICO models relative to conventional network effects (Howell et al. 2018). Token holders are motivated to help the platform succeed either by using tokens directly or contributing (e.g. finding bugs or adding features).

## **Conclusions**

Overall, our research suggests that there are several similarities and significant differences between ICOs and other forms of alternative finance. While the ICO model is significantly different to the VC model, it shares many of the features of the EC model. For example, one significant similarity between ICO and EC is the combination of both financial and non-financial benefits to the venture (e.g. product validation and legitimacy). The model also differs from other forms of venture financing. ICOs businesses do not have to adhere to the strict accounting standards required of public companies and unlike other risk capital providers, ICO investors may have no experience in making such investments. Finally, through the several coin exchange platforms, ICOs offer liquidity to investors, unlike VC and EC.