



LUND UNIVERSITY

School of Economics and Management

Master programme in Economic Growth,
Innovation and Spatial Dynamics

The potential for shared value creation on the blockchain: A
qualitative analysis of new blockchain ventures and their ICOs

Tatiana Proisy

tatiana.proisy.777@student.lu.se

Abstract: A shift in new venture creation can be observed from purely profit-oriented models to alternatives attempting to also answer social and environmental needs. Because of their nature, these alternatives face issues regarding their integration in traditional financial and business spheres. Shared Value Creation is a framework that attempts to analyse these ventures and those challenges. Blockchain technology and its innovative features might be considered as a potential solution to barriers found in traditional structures for shared value creation. Therefore, a qualitative analysis of ten new ventures and their initial coin offerings is performed to provide some evidence regarding the potential of the blockchain to foster shared value creation. The results find that although the technology and the ventures are in initial stages, the potential for shared value creation on the blockchain is substantial.

Key words: Blockchain, Initial Coin Offering, ICO, Shared Value Creation, tokens, social value

EKHM52

Master thesis (15 credits ECTS)

August 2017

Supervisor: Jonas Ljunberg

Examiner: Claudio Fassio

Word Count: 15799

Table of Contents

1.	Introduction	3
1.1.	Relevance.....	5
1.2.	Aim and Scope	5
1.3.	Thesis Outline	6
2.	Previous research.....	6
2.1.	The traditional business approach	6
2.2.	Corporate Social Responsibility	6
2.3.	Social Businesses	7
2.4.	Networks, Social Innovation and Systems of Innovation	7
2.5.	The funding issue of businesses with social aims.....	8
2.6.	Measuring blended returns	9
3.	Theoretical Framework.....	10
3.1.	The Shared Value Creation Framework.....	10
4.	Blockchain	12
4.1.	Initial Coin Offering.....	13
4.2.	Nuance.....	14
5.	Data & Method	14
5.1.	Data	14
5.2.	Method	16
6.	Results.....	16
6.1.	Project descriptions	16
6.1.1.	Initial Coin Offerings 2016.....	17
6.1.2.	Initial Coin Offerings 2017.....	19
6.2.	Shared Value Creation Taxonomy	22
6.2.1.	Reconceiving products and markets	22
6.2.2.	Redefining productivity in the supply chain.....	25
6.2.3.	Enabling development of local clusters	25
7.	General results.....	26
8.	Discussion	27
8.1.	Initial Coin Offerings and Initial funding.....	27
8.2.	The Blockchain technology and its Shared Value Creation	27
8.3.	Limitations of the findings.....	28
8.4.	Further research suggestions	29
9.	Conclusion.....	29
10.	References	31

1. Introduction

Blockchain technology is considered a breakthrough innovation in ledger technology which has witnessed relatively few changes since the double entry bookkeeping method was invented in the fifteenth century. The most significant change being the digitalisation of ledgers in the twentieth century. However, until the late 2000s the technology had always been centralised by institutions (Davidson, et al., 2016). Blockchain technology evolved in the context of a quest for cost-effective, efficient, secure and reliable systems to record and administer transactions. A general definition used to describe blockchain is a decentralised hyper ledger, as the technology usually displays publicly all the transactions effectuated by its users and stores them in a secure way. The name of the technology is related to the method used to store the transaction information, the data is encrypted in blocks that are linked together and form a chain. The chain of blocks grows as data is added to it. The data stored in the blocks contain information regarding the nature of the transaction, the involved parties and a timestamp (Davidson, et al., 2016; Gupta, 2017).

The first known implementation of the technology dates to 2008 when one or several anonymous people under the pseudonym “Satoshi Nakamoto” proposed the Bitcoin protocol for a “Peer-to-Peer Electronic Cash System” (Nakamoto, 2008; Gupta, 2017; Catalini & Gans, 2016; Wright, 2017). Bitcoin, and the blockchain in general, address the inefficiencies, complications, weaknesses and superfluous additional costs involved in the current traditional transaction system using intermediaries (Gupta, 2017). Since 2008, the use cases of the technology multiplied and went beyond the Bitcoin model of a virtual monetary system with a virtual currency. Indeed, Bitcoin is one application of the blockchain but the technology enables a myriad of other use cases.

Smart contracts are a recent development that enhances the utility of the blockchain. They consist in pre-set rules or agreements governing transactions, they are stored and automatically executed as parts of transactions on the blockchain itself. Smart contracts are similar to traditional contracts in the sense that they institutionalise agreements and rules. However, they surpass the latter as they cannot be bypassed and are quickly and efficiently applied as a result of being automatized and built within the transactions themselves.

Currently, the blockchain represents a potential solution for problems faced by businesses and institutions using centralised systems. The technology functions in a decentralised and automatized way. This allows to reduce costs incurred by intermediaries necessary to maintain classical multiple ledgers, to reduce delays to implement actions and to prevent from central cyber-attacks or frauds that can compromise entire centralised networks. Main core concepts of the blockchain are consensus, provenance, immutability and finality. The consensus concept implies that all the participants of a network have to validate a transaction for it to be accepted. Provenance resides in the fact that all participants can trace the origin of assets and how their ownership evolved over time. Immutability of the hyper ledger is ensured by the fact that once the transactions are validated, no user can tamper with or modify them. In case of an error, the transaction is left on the ledger and an additional correction transaction is added to it. The finality concept lies in the fact that the blockchain hyper ledger provides a single all-encompassing platform for users that allows to trace transactions and ownership of assets (Gupta, 2017).

Blockchains can be and are designed with different characteristics that affect their use cases and capabilities. Perhaps one of the easiest distinctions is the difference between public and private blockchains. Public blockchains, such as Bitcoin and Ethereum usually rely on a consensus mechanism to maintain and validate the shared ledger, as well as verifying the addition of new blocks in the chain.

Public blockchains offer significant opportunities to increase transparency and security in a trustless environment. The consensus mechanisms in public blockchains are mainly concentrated in two categories, proof-of-work and proof-of-stake. In a proof-of-work system, miners solve increasingly complicated mathematical equations with their computers in order to participate in a lottery for the right to add the next block on the chain, they are rewarded with the blockchain's cryptocurrency for their work (Catalini & Gans, 2016). In a proof-of-stake system, the blockchain is extended and verified by users that already own stake in the currency. It can take several forms, it might include a degree of voting control, for example to form a consensus to verify outcomes in the blockchain, processing transactions or connecting users in markets. Fees are usually paid to stakeholders in proportion to work achieved and tokens held (Catalini & Gans, 2016; Conley, 2017).

Private blockchains are distributed ledgers where participants need to be granted permission to add and to sometimes even view the transactions. They can deliver higher bandwidths since they do not rely on a consensus mechanism. However, the audit trail is not protected by a peer-to-peer network. Thus, if the nodes are compromised or their intermediaries collude to re-write the ledger, the integrity of the entire system would be compromised (Catalini & Gans, 2016).

The most common type of blockchain is public and maintains an open source format. It could be argued that such platforms are built and oriented to suit their community as much as possible. Most blockchains feature native crypto-currencies (commonly referred to as crypto-tokens or tokens) which can take a wide range of roles such as an internal unit of account, or as a way to intermediate between buyers and sellers (Conley, 2017). Furthermore, they can be used to bootstrap networks of exchange without the need of traditional trusted intermediaries (Catalini & Gans, 2016). Recently, ventures have harnessed these characteristics and developed the practice of Initial Coin offerings (ICOs).

ICOs consist in events in which blockchain-related projects issue a cryptocurrency token in exchange for fiat currency or other cryptocurrencies. ICOs most commonly occur before the full completion of projects and participate in funding initiatives, they are also a medium to effectuate the initial distribution of a network's tokens in the community (Catalini & Gans, 2016; Gupta, 2017). It is considered in the blockchain community that ICOs could be a way to create knowledge open to all and also a way to fund non-profit initiatives, between others (Kastelein, 2017).

A share of emerging new ventures is attempting to build new business models re-centred around the community they influence or more precisely, their stakeholders. This movement can be considered as taking roots in the discontent expressed by consumers or other stakeholders regarding current business practices vis-à-vis the environment or society. Porter and Kramer (2011) developed the theory of Shared Value Creation to analyse businesses embedding the creation of social value within their business model and activities, rather than implementing traditional business models and side activities assessing social or environmental issues.

However, these businesses face various challenges regarding how to gather initial funding, which types of investors to address, how to reach their community of stakeholders and include them in the decision-making process (Porter & Kramer, 2011; Bugg-Levine, et al., 2012; Porter, et al., 2017). Indeed, the traditional investment sphere in which businesses evolve can seem poorly suitable for businesses creating revenues that are not only financial but also social or environmental. Furthermore, the lack of suitable platforms to connect with investors oriented towards shared value creation can be

detrimental for the survival of businesses attempting to include social value creation at the core of their business models.

It is possible to suggest that due to a lack of measurement methods and standardisation regarding shared value creation, businesses creating shared value might simply not be suited for traditional business practices. Therefore, one could suggest that the innovative solutions catered by the blockchain technology could represent a potential solution for the creation of shared value. Indeed, on the blockchain, the sense of community and involvement of users in the products they use are quite developed; each user participates in the creation of the chain and ensures its safety while benefiting from what the technology provides (Bugg-Levine, et al., 2012; Porter, et al., 2017).

1.1. Relevance

Shared Value Creation can be considered as a crucial innovative way to rethink business models around societal and environmental issues that can be detrimental for the wellbeing of populations and the preserving of the environment. This framework could be analysed as a method going further the initiatives traditionally proposed by the Corporate Social Responsibility theories and therefore a more sustainable solution. However, the framework of Shared Value Creation is not suiting current business and financial spheres which leads to major difficulties for businesses attempting to create shared value (Porter & Kramer, 2011; Porter, et al., 2017; Bugg-Levine, et al., 2012). One could therefore consider exploring alternative channels of funding and business development and attempt to analyse them with the Shared Value Creation framework.

The emergence of the Blockchain is relatively recent, dating back to its inception in 2008. Moreover, the technology remains obscure for the major part of the public and is not widely adopted yet. Many gaps can be identified in the academic work analysing the blockchain. However, this technology has the potential to create significant improvement in the way businesses are organised and interact with their stakeholders (Iansiti & Lakhani, 2017; Catalini & Gans, 2016). Besides, the blockchain is built around the core concept of a peer-to-peer community that is crucial to its development and maintenance (Nakamoto, 2008; Kastelein, 2017; Gupta, 2017).

The consideration of the difficulties faced by businesses attempting to create shared values and the opportunities offered by the blockchain leads to the research question of this study:

What is the potential of public blockchains for shared value creation by new ventures?

1.2. Aim and Scope

This thesis aims at assessing the potential of blockchain technology of creating shared value by new ventures. The scope of the analysis is reduced to public blockchains, as they are considered the most likely candidates for shared value creation. Public Blockchains rely on an open community for validation and security, are the most numerous and the closest to the original conception by Nakamoto (2008). Furthermore, private blockchains are usually extensions of existing legacy systems by established companies (Catalini & Gans, 2016). Relying mainly on shared value creation theory, the study attempts to develop a taxonomy from a sample of ten new blockchain ventures that launched their ICOs in 2016 and 2017. These selected ventures had the five most successful ICOs in terms of proceeds gathered in their respective years.

1.3. Thesis Outline

The outline of the thesis follows this organisation: Previous research outlines the shift from the traditional business approach to initial attempts to include social aspects to business models and the response by the Shared Value Creation approach, which is the focus of the thesis. The Theoretical Framework presents the Shared Value Creation theory and its three methods which will serve as the taxonomy for the qualitative analysis. Following this sections, Blockchain technology and its components are presented in order to give a broad understanding of the latest developments surrounding the technology. Data & Method present the sources of information for the analysis as well as the method in which said analysis is performed. The Results section presents a description of the projects and the taxonomy of the three methods for creating shared value and some general results. The Discussion section assesses the results, presents the limitations of the analysis and presents suggestions for further research. The final section concludes the analysis.

2. Previous research

2.1. The traditional business approach

Traditionally, the private sector is analysed and theorised around the process of profit creation. In the shareholder theory of the firm, businesses are conceptualised as responsible only for making a profitable use of their resources while complying with the law (Friedman, 2007; Sundaram & Inkpen, 2004). In addition, research has shown, this sector is considered as dominated by for-profit enterprises (Mitchell, et al., 1997; Phillips, et al., 2015; Porter & Kramer, 2011). The main goal of these enterprises, namely to generate profits in order to maximise the value of the owner's holding, is depicted as induced by shareholders' directives. Therefore, when assessing the roots of environmental, economic and social issues, for-profit businesses are often considered as ensuring their profits at the expense of the society. It can be suggested that the short-term profit only oriented goals of enterprises are more than often contradicting the social needs of societies (Mitchell, et al., 1997; Porter & Kramer, 2011).

2.2. Corporate Social Responsibility

Facing discontent and critiques, some businesses are attempting to be more responsible regarding their impact on the environment and society. Authors identified the implementation of a responsible agenda as "Corporate Social Responsibility" (CSR), which consists in voluntary actions emanating from enterprises targeting social or environmental issues. This concept is deeply linked with the notion of stakeholder, which embodies all the individuals being impacted directly or indirectly by a firm, its activity or products (Freeman, et al., 2004; Freeman, 1994). Stakeholder Theory is based on the principle that companies should be responsive to their customers and any individual affected by the business (Yildirim Saatci & Urper, 2013). Indeed, while implementing their activities, businesses bring together several entities such as providers, employees, customers, shareholders and so on. It is in their own interest to create a situation which best suits all these stakeholders, in order to avoid exiting the transaction pattern they are part of (Freeman, et al., 2004; Venkataraman, 2001).

The literature focusing on CSR suggests that it is possible to include social and/or environmental goals within the agenda of for-profit enterprises. A widely accepted definition of CSR would focus on firms "doing good" for their employees, the environment and society, on a local level (Blowfield & Murray,

2008; Mitchell, et al., 1997). In fact, successful examples of social initiatives using traditional types of businesses, such as the Grameen Bank have spawned the interest of multinational companies. However, it is considered that multinationals still focus primarily on shareholder value maximisation, due to their business model and financing structure, which is sometimes arduous to effectuate simultaneously with social objectives (Yunus, et al., 2010).

However, some authors consider that the literature on CSR focuses on highlighting the tensions existing between companies and shareholders, rather than exploring their interdependencies (Porter & Kramer, 2006; Porter & Kramer, 2011; Michelini & Fiorentino, 2012). Moreover, it is argued that CSR linked activities focus primarily on limiting the negative impact of firms on the environment and the society and can only tackle social issues at the surface (Yildirim Saatci & Urper, 2013; Porter & Kramer, 2011). It is also argued that in the case of CSR, social outcomes are only by-products proposed by for-profit firms (Porter & Kramer, 2011). The following frameworks are therefore proposed; Social Businesses and Shared Value Creation.

2.3. Social Businesses

In order to reach low income customers, social businesses aim to answer social issues with the products and services they offer at affordable prices. Social business also involves enterprises giving ownership to a marginalized population so that they can receive a share of their profit (Yunus, et al., 2010). It is considered that social businesses can focus mainly on social issues because, after managing to pay back their initial investments, their business model entails the re-investment of the profits into further social innovation and growth. This strategy allows social businesses to be self-sustainable enterprises in the sense that they only rely on investors when created. Social businesses are therefore able to not be compromised by shareholders when targeting societal needs or when taking into account the totality of their stakeholders (Yunus, et al., 2010; Yildirim Saatci & Urper, 2013).

2.4. Networks, Social Innovation and Systems of Innovation

Innovation is often considered to be a social process made possible by interactions between various actors partnering within a sole social system, making collective learning possible (Phillips, et al., 2015; Porter & Kramer, 2006; Porter, et al., 2017). The dynamism of collective interplay occurring within knowledge networks is making the pursuit of social goals more fruitful as it is more susceptible to entail social networking and learning leading to a decrease of costs (Dawson & Daniel, 2010; McElroy, 2002). Indeed, the principal advantage related to network cooperation lies in the mixing of resources and knowledge by actors of the network of cooperation. Moreover, long term relationships between network partners in parallel to the exchange and pooling of knowledge are two elements that are associated with successful social initiatives (Yunus, et al., 2010).

Current researches put emphasis on the communal nature of social innovation; it occurs through collaboration and cooperation. It is therefore important to ensure the implementation of networks linking social innovators together (Phillips, et al., 2015). As it has been expressed by Phillips et al. (2015), in spite of the growing number of work analysing networks and their relation with social innovation, the need to understand the type of network and activities necessary to successful innovation remain unanswered.

Innovation is generally encountered as having a systemic nature as it is entailing a set of actors that are linked together through their activities. Thus, it might be fruitful to study innovation with a cross disciplinary approach focusing on linkages and interactions (Fagerberg, 2005). The system of

innovation approach attempts to assess innovation at a spatial level while taking into account linkages and institutions (Lundvall, 1992; Lundvall, 2008; Edquist, 2005; Asheim & Gertler, 2005).

The focus on institutions in the System of Innovation approach assesses the institutional endowment of the regions as it consists in an intangible asset allowing the creation of knowledge. Indeed, the institutional framework is considered as capable to allow, facilitate or prevent the human resources to interact and exchange knowledge and therefore to create new knowledge. In this rationale, each regions' institutions might be considered as deeply linked with the local competitiveness (Asheim & Gertler, 2005).

However, it is debated in the literature whether such an approach is only adapted for science intensive industries in which the innovation depends on analytical knowledge. Therefore, it can be suggested to attempt to apply this approach or use aspects of it in order to analyse another type of innovation; social innovation, or more precisely shared value creation.

2.5. The funding issue of businesses with social aims

Social innovation is carried out by businesses with social purposes as their core values. The motivation of these businesses is to meet social needs through their activities (Mulgan, 2006). Social businesses represent an important type of actor implementing social innovation, in their diversity they all face the same kind of ordeal: is it possible for them to generate enough revenue and how can they attract sufficient amounts of investments to initiate their activities and grow (Bugg-Levine, et al., 2012)?

Social innovators face issues concerning their funding and investments because of their very own output; they create blended returns. Clearly, the application of social innovation in businesses leads to both financial and social returns (Bugg-Levine, et al., 2012). Such returns do not fit the traditional investment framework which is mainly focused on financial revenue. It can therefore be suggested that traditional platforms to communicate a need for investment or traditional contracts regarding investments and their revenue might not be best-suited for businesses with blended returns (Bugg-Levine, et al., 2012; Pfitzer, et al., 2013).

It is however suggested that it is possible for this hybrid type of business to find the right kind of investor. The observable increase in the amount of donations and charity highlights the will of some investors to have their investment returned in social value. A possibility for social businesses would be to manage to attract these investments that do not only require financial returns. It is therefore crucial to be able to recognise the creation of social value, or more importantly, be able to adapt social value creation or social innovation into the balance sheets of hybrid businesses (Bugg-Levine, et al., 2012).

In their study of the financial bootstrapping methods used by small businesses, Winborg and Landström (2001) suggest that current education and counselling practices focus mainly on how to approach traditional investment sources such as banks, venture capitalists or business angels. They further propose that this focus could be broadened. As demonstrated in small businesses, market solutions and financial bootstrapping seem to appear as more adequate means of investment and funding (Winborg & Landström, 2001). One could suggest that a similar point of view may perhaps be applied for hybrid businesses such as socially innovative enterprises. Indeed, it could be logical to analyse different channels of investment and different types of investors for enterprises that follow business models that not only result in financial returns, but in social value creation as well.

2.6. Measuring blended returns

In order to overcome funding and investment issues, it can be suggested to adopt a strategy that makes the social goals of businesses clear from the very first steps of activity. Such early signalling could allow businesses to attract investors and decision makers that are driven by their will to meet societal challenges (Yunus, et al., 2010; Bugg-Levine, et al., 2012; Porter, et al., 2017). Nevertheless, it can be argued that providing these actors with rigid and detailed reports of returns similar to the traditional financial reports handed to investors and shareholders is a necessity. In addition, authors reach a consensus regarding the fact that it is crucial to elaborate concrete ways and methods to monitor the creation of social value or shared value. This could counteract scepticism emanating from investors, or even implement a new type of investor reward system for businesses creating shared or social value (Bugg-Levine, et al., 2012; Pfitzer, et al., 2013; Porter, et al., 2017). However, to this day there is not any universal system to take account for tangible social benefits (Bugg-Levine, et al., 2012; Pfitzer, et al., 2013; Porter & Kramer, 2011).

In their recent proposal for a framework to measure shared value creation, Porter et al. (2017) present that efforts to comprehend the connexion occurring between social value creation and business performances are just beginning. However, they also suggest that measuring shared value can easily be achieved, would allow larger implementations of shared value strategies and assessment of these latter. It is widely considered that to be able to measure the creation of shared value, businesses have to integrate the measurement goal into their share value strategy, so that it becomes a process rather than a sporadic effort. In order to integrate the measurement process in their strategy, businesses have to follow a four-stepped procedure (Porter, et al., 2017).

Observations made by Porter et al. (2017) lead to the conclusion that most businesses tracking social progress do not jointly track business results and social results. However, the understanding of the overlapping of business results and the exploitation of social opportunities is presented as crucial to the implementation of sustainable shared value creation and the renewal of social issues targeted by businesses. The focus is the juncture of business value creation and social value creation which results in what is considered shared value creation. Such measuring might be considered as incompatible to traditional financial and business methods as it might not answer to the current emphasis on standardisation and comparability across companies. However, innovative tailored measuring solutions for shared value creation might enable a shift on how economics value and social value are intertwined (Porter, et al., 2017).

The current investment community seem to remain sceptical concerning the linkages between economic value creation and social value creation. Moreover, it can be suggested that studies and attempts to highlight these connections have not managed to create a solid case. The contribution of the shared value measurement framework is that by initially linking business strategies with social value creation and measurement, it avoids the pitfalls of having to provide an argument for possible causation of social value creation on the success of businesses activities. Furthermore, shared value creation measurements aim at capturing value creation through their estimates rather than demonstrate impact (Porter, et al., 2017).

The investment sphere represents a crucial decision maker that has the capacity to encourage the adoption of shared value at a large scale. In order to be able to persuade investors, it is necessary to analyse and spread cases of business models that are successful in creating shared value. Such cases can help demonstrate the links between investments that address social issues and the creation of economic value by businesses. It can be suggested that the shift of focus by the investment community

is a primordial goal to achieve in order to be apt to answer global imperatives such as global warming, the providing of quality nutrition for the world population or also the eradication of extreme poverty in vulnerable populations (Porter, et al., 2017).

3. Theoretical Framework

3.1. The Shared Value Creation Framework

Shared value creation is a concept that entails firms with social and environmental issues as their core values, or which have embedded a social mission in their corporate culture and are directing resources to social innovation (Pfitzer, et al., 2013). Such enterprises consist in business models in which the competitiveness of the firms goes hand in hand with the improvement of the social, economic and environmental conditions of their stakeholders and of the milieu in which they operate (Porter & Kramer, 2011). These business models make possible the simultaneous generation of value for both the stakeholders and shareholders, through the elaboration of a method to make profit while addressing social needs (Michelini & Fiorentino, 2012; Pfitzer, et al., 2013).

According to Porter and Kramer (2011, p3), there are three distinct but interrelated ways to create shared value; by “reconceiving products and markets, by redefining productivity in the value chain or by enabling the development of local clusters”. When enterprises focus on one of these methods, they create opportunities to act in the two other ways. Firms attempting to create shared value are considered as hybrids breaking the boundary traditionally separating for-profit and non-profits (Porter & Kramer, 2011; Porter, et al., 2017).

The first way to create shared value is through the reconceiving products and markets. This process focuses on attempting to bring a positive answer when asking whether the product of the company is good for the customers. To answer this interrogation and eventually create shared value, companies can attempt to identify societal needs, benefits and problems that can be related to their products or services. This procedure is not static and demands a continuous assessment of products, opportunities and consideration for new unexplored or overlooked markets. Such process can create fundamental innovations that can be applied throughout the whole company and the markets in which it operates. Empirical examples of this process can be agro-alimentary companies aiming at providing products enabling better nutrition rather than only taste or quantity, or companies using microfinance which was first developed to meet needs in developing countries, to address an overlooked demand in developed countries. It is considered that this process, when emanating from firms rather than states, is providing much more benefits for society. Indeed, it can be suggested that the adoption rate for healthier or environmentally friendly products is higher for products efficiently marketed by businesses than for products recommended by governments, for example (Porter & Kramer, 2011; Porter, et al., 2017).

Another way to create shared value is to redefine productivity in the value chain. This method puts emphasis on the new thinking brought to the links between societal needs and productivity in the value chain, as well as on the influence of externalities on internal costs. A simple example for this process is the rethinking of the logistics of a company. Reducing shipping distances allows a better use of energy but also a considerable gain in time for the company, while emitting less it is possible to save costs. A similar pattern can be transposed on water use or distribution practices. Another angle can be to target the productivity through the employees of a company. Such an approach emphasizes the investment in health and wellness programs in order to boost productivity and avoid poor health

conditions. Finally, the redefinition of productivity in the value chain in its entirety highlights the importance of locations. This final aspect is directly related to the changes in logistics and distribution, as opening smaller factories closer to each market and using local products drastically cuts down transportation costs and emissions. The focus on location also allows to create privileged relations to local populations and partners through the creation of local employment and circuits of distribution and cooperation (Porter & Kramer, 2011; Porter, et al., 2017).

The third way to create shared value is to enable the development of local clusters. This approach is routed in the belief that the accomplishments of companies are dependent of the support of other companies and the infrastructure that is available nearby. Indeed, it is suggested that locally concentrated firms, institutions and organisations, or clusters, can influence not only productivity, competitiveness and innovation, but also logistical infrastructure. It is considered that companies can create shared value when participating in the building of clusters to enhance the company productivity. A spill over of creating clusters is the amplification of the connection occurring between the success of the firm and the success of the local community in general. This connection can be found in the job created in supporting industries but also the seeding of new companies or in the increase in supply of skilled employees through workforce development projects (Porter & Kramer, 2011; Porter, et al., 2017).

It is believed that the generation of shared value through the investment in clusters applies for various sectors in developing countries but also in developed countries. However, it is important to consider that not all cluster developments are presented as effective. Indeed, according to Porter and Kramer (2011), purely community-focused CSR programs are not as efficient as programs targeting cluster gaps that are actual constraints for companies. This rationale takes root in the fact that most CSR initiatives, being charitable, do not take into account value whereas programs assessing dysfunctions in clusters that are constraining businesses are linking clusters with value creation. Additionally, it is suggested by Porter and Kramer (2011) that most successful cluster development initiatives are collective. Systems in which firms collaborate with the public sector or organisations are enabling a sharing of the costs (Porter & Kramer, 2011; Porter, et al., 2017).

In theory, it is recognised that several types of business creating shared value are plausible. Indeed, it is not specified that a business had to be founded on an initial model with social matters at its core to be able to create shared value or social value. Moreover, the examples used in the literature to suggest application of the theoretical frameworks can be businesses initiated so as to meet social needs, this is the case of the Grameen Bank (Yunus, et al., 2010). But these examples are largely outnumbered by examples of solidly set multinationals implementing projects or are reinventing their models to meet social needs, this is the case for examples such as Nestlé, IBM, Coca-Cola Wal-Mart, Dow and others (Porter & Kramer, 2011; Pfitzer, et al., 2013; Porter, et al., 2017). However, it could possibly be argued that such cases represent businesses partly creating shared value or more precisely, businesses in which only some projects or divisions are creating shared value. This thesis being aiming at analysing a solution for initial investment of businesses creating shared value, cases of already developed multinationals will not be analysed and the theoretical case of creation of businesses focused on shared value creation only will be assessed.

A first nuance could be applied to the theory of Shared Value creation as it is focused on the long term. This focus can be considered as considerably beneficial for a rethinking of how to assess financial returns. However, this long-term mindset might be preventing from considering negative effects of the implementation of new business strategies to create shared value. For example, the second way to create shared value, through redefinition of productivity in the value chain might entail short-term negative impacts on communities. Indeed, some examples used to illustrate this case are the

relocation of factories closer to the locations of consumption or the rethinking of logistics to reduce distances of transportation. One could argue that these changes might imply the closing of factories or the reduction of employment in transportation, both possibilities might infer negative impacts on local employment.

4. Blockchain

Blockchain is a fairly new technology introduced in 2008 in relation to the proposal for Bitcoin, the first application of blockchain, a computer-generated currency system that functions with no central authority, replacing trust with cryptographic proof (Catalini & Gans, 2016).

Blockchain technology works as an open distributed ledger recording permanently and efficiently contracts and transactions. The blockchain network is composed of machine hosting ledgers, interconnected machines referred to as miners and connection points linking networks together. Additionally, blockchain technology can allow the automatization of transactions through self-executing smart contracts. On the long term, the blockchain potential could enable a system in which users, organisations, algorithms and machine could interact without the need of intermediaries such as banks, brokers or lawyers (Iansiti & Lakhani, 2017; Alcazar, 2017; Surujnath, 2017; de Meijer, 2016). For some, blockchain represents an accelerator for industry and innovation enabled by the third platform technology (the first platform corresponds to networks of mainframes and the second corresponds to personal computers, internet and local area networks). The third platform technology allows the deployment and consumption of computing resources in shared communities in an immediate way (Underwood, 2016). Similarly for some, it is “the first technology worthy of the label of disruptive data technology” as it avoids the pitfalls of trust-management attacks, linked to centrality (Alcazar, 2017, p. 93). Moreover, advantages such as prevention of data leakage, reduction of transaction time or reduction of risks associated with cybercrime are identified as provided by the technology (Underwood, 2016; Surujnath, 2017; de Meijer, 2016).

The technology works as a distributed ledger in the sense that each party has access to the history of the blockchain and its database. Also, the control of the data does not revolve around any single individuals or entities. Moreover, each participant can, without the need of an intermediary, verify the histories and accounts of the partners with whom they transact (Iansiti & Lakhani, 2017; Catalini & Gans, 2016; Kastelein, 2017). The ledger itself is maintained cooperatively by all the participants using it, following a set of rules generally pre-approved and firmly applied (de Meijer, 2016; Kastelein, 2017).

Since no intermediaries are needed, communications and transactions can occur between peers directly in the place of transiting through a central node. Therefore, instead of having a central node growing as transactions and communication increase, the system is composed of a myriad of nodes gradually entering the system, storing information and transmitting it forward to the other nodes (Iansiti & Lakhani, 2017; Kastelein, 2017). This aspect of the technology not only influences the time the interactions take to be implemented and approved, but also their cost and their security (de Meijer, 2016; Alcazar, 2017).

The transparency of the system is allowed thanks to the fact that transactions and what they concern are visible freely to all the parties having access to the system. A relative anonymity is granted to user as they are identified through pseudonyms or more precisely alphanumeric addresses that consist in suites of thirty or more characters. However, instead of remaining anonymous, if users want or need to, they can communicate their identity and provide proof of it to other parties. Whether parties decide

to communicate their identities or not, transactions occur between alphanumeric addresses (Iansiti & Lakhani, 2017; Kastelein, 2017).

The blockchain system has as one of its core values the fact that it cannot be tampered with or revised. Indeed, when transactions are effectuated, the concerned accounts are updated and the actions are registered in the database. Additionally, new transactions are linked to all the other previous records of transactions that occurred, forming a chain. The architecture of the system and its algorithms is such that the recording of transactions on the database is chronologically organised, open to all the parties of the network and everlasting (Iansiti & Lakhani, 2017; Surujnath, 2017; Kastelein, 2017).

One of the strengths of the blockchain ledger is linked to its digital nature. In fact, it allows transactions to be tied to computational logic and therefore, be programmed. This results in the possibility for users to set up instructions and algorithms that can automatically generate transactions, when needed (Iansiti & Lakhani, 2017).

Blockchain represents multiple possible advantages for businesses as registering and keeping trace of transaction is a fundamental function of any type of activity. The type of data stored allows to analyse previous performance and initiatives and to project and plan future potential developments. Moreover, this data not only gives insights concerning how firms works internally but also concerning their ecosystems and the relations they maintain with it. Nowadays, most organisations keep track of their own transactions in a private system. Moreover, it is majorly observed that records are fragmented between internal units and operations. Such a structure involves middle parties and human interactions when attempting to transfer ownerships, as each party do not have access to the ledger of their partners and cannot verify ownership rights for themselves. It can be suggested that blockchain offers solutions to the problems faced by firms and organisations, with reductions in transaction cost, automatization and security (Iansiti & Lakhani, 2017; Surujnath, 2017).

4.1. Initial Coin Offering

Initial Coin Offerings are linked to crypto-tokens, smart tokens or crypto currencies, the semantics may vary (Conley, 2017; Hertzog, et al., 2017). ICOs, also referred to as crowdsales or token sales are a manner, mainly used by blockchain start-ups to gather early capital. They are usually preceded with the publishing of a white paper. A white paper is traditionally an informational article defining a particular product and written in an objective style (Hazlett, 2007). The typical general business model revolving around token sales is the issuing of a token with an initial arbitrary value assigned to it by the issuer. Most often the issuing occurs on an existing protocol such as Ethereum, for example, in some other cases, the issuing is coupled with the creation of a new protocol and a new network. Once the token launched, its value will be regulated by the supply and demand of the network, rather than through any central organism (Kastelein, 2017).

Initial Coin offerings gather special features for both investors and firms or start-ups issuing tokens. For investors, token sales represent an asset with a considerable liquidity as tokens do not correspond to shares in a company. The status of the tokens which vary considerably between ICOs, make it possible for investors to trade their tokens for fiat currency, other tokens or crypto-assets without any lagging period. Moreover, variations in price are transparently communicated, making it easier to realise how much profit or loss is observed. On the other side, Initial Coin Offerings allow issuers to

raise funds through the proceeds exchanged for the newly issued tokens, and to create a network of token users without surrendering decision-making power (Kastelein, 2017; Conley, 2017).

It can be suggested that such a way to raise funds could be an answer to the shareholder issue for firms focusing on the “general good of the product or service itself” (Kastelein, 2017, p. 4) rather than solely financial returns. Indeed, ICOs are believed to allow micro investors, such as potential users or more generally stakeholders to invest and support businesses and products that they deem worthy or good. Such type of investor can be considered as less focused on financial returns than traditional investors and as stated previously, Initial Coin Offering investors are not given shares which prevents from dilution of the decision-making power. Moreover, for the blockchain community, token sales may represent a possible solution for more open knowledge. For example, non-profits can raise capital and build open source software in exchange, as Ethereum did in their 2014 ICO (Kastelein, 2017).

4.2. Nuance

No matter how efficient and innovative the blockchain technology is, many barriers still need to be crossed so the adoption of the technology can be implemented. Indeed, technological, legal, societal and organisational aspects still need to be assessed and accepted. Blockchain can be considered as a “foundational technology” in the sense that it has the capacity to set new foundations for economic and social systems. However, it can be suggested that its adoption will follow a steady increasing trend rather than a sudden burst (Iansiti & Lakhani, 2017, p. 120). Furthermore, crucial issues such as the integration of blockchain technology with existing systems and the heavy dependence of security on the quality of the code have yet to be addressed fully (Underwood, 2016; de Meijer, 2016).

Another crucial aspect regarding possible further developments of the blockchain technology is its regulation. The technology, although already implemented fully by some, remains in its informative stages. It remains unregulated in a major part of the world, and it is observed that various authorities have not yet communicated any agenda concerning decision-making and legislations regarding the matter. Some avant-garde conciliatory laws or projects have been implemented in countries such as the United Kingdom, Hong Kong, Australia or Singapore, however, these remain a minority. Moreover, some countries such as the United States of America, took less hospitable solutions regarding the implementation of blockchain, notably in finance (Surujnath, 2017).

5. Data & Method

5.1. Data

Since the thesis analyses ventures in the very early stages, data is scarce and no quantitative measurements could be performed reliably to address the research question. For this reason, a qualitative analysis of the potential shared value creation by the ventures is performed. Thus, the data for the analysis was recollected in the form of written text that communicates the objectives of the ventures, the business models and the issues they aim to solve with their projects. This is done through the publishing of a White Paper that details all of this information to the public, which ultimately

decides the veracity and potential of each project via the result of the ICOs. Only the most successful ICOs were selected for the study in order to filter out some of the possible noise in the data. This could be in the form of exaggerated claims in the business model and/or objectives, or even fraudulent cases. Although it is not possible to ensure that all the projects will be successful, selecting the ICOs with the highest level of success (measured as the amount of funding they received) might provide some indication of trust by the blockchain community and investors. The potential disadvantages from this bias will be discussed further in the limitations section.

The data for the analysis includes five companies that launched their ICO in 2016 and five companies that launched their ICO in 2017, for a total of ten companies over the last two years. The total number of companies that launched an ICO in 2016 was 46, while this number has increased 100% to 92 as of July of this year. The amount of funding has also increased 1200% from a total of approximately USD 96 million in 2016 to a total of approximately USD 1.2 billion until July of this year. However, the amount funded is heavily biased toward the most successful ICOs.

Table 1 shows the selected ventures for the analysis. It is possible to see from the table that the amount of funding raised by companies in 2017 is substantially larger than what the companies raised in the previous year. This can be attributed to the increased awareness and adoption of the technology by the public. Furthermore, it is possible to see that most of the money raised each year was concentrated in a few companies. In 2016, 50.64% of the total amount raised equivalent to around USD 48 million was concentrated in around 10% of the companies. In 2017, the contrast is higher where 5% of the companies raised 47% of the total amount, equivalent to approximately USD 592 million USD.

Table 1. Sample of New Ventures

Project Name	Year	Position	Total Raised
Waves	2016	1	\$ 16,436,095.00
Iconomi	2016	2	\$ 10,576,227.00
Golem	2016	3	\$ 8,596,000.00
SingularDTV	2016	4	\$ 7,500,000.00
Lisk	2016	5	\$ 5,700,000.00
Tezos	2017	1	\$ 232,319,985.00
Bancor	2017	2	\$ 153,000,000.00
Status	2017	3	\$ 90,000,000.00
TenX	2017	4	\$ 64,000,000.00
MobileGO	2017	5	\$ 53,069,235.00

Source: CoinSchedule (2017)

Unfortunately, the available quantitative data, such as the amount raised by venture, will not say much about the potential for shared value creation either by the venture itself or the blockchain as a whole. It is unlikely that the amount raised is only a signal of the perceived shared value creation by its investors, but rather a complicated set of factors that include the novelty of the technology, financial gain, amongst others. Thus, in order to gain some understanding from the available information, one has to turn to qualitative data that would provide information on the potential of shared value creation by each venture. This is found in the form of White Papers. As mentioned earlier, a White Paper is the first line of communication with the community and signals the aim of the project, the business model and the benefits to the users and potential investors in the project, i.e. the community. Fortunately,

the common procedure of an ICO usually starts with the publishing of a White Paper and in most cases, it is the only source of value the project has before the ICO itself. This allows for the recollection of qualitative information that could provide insights into the potential of a venture, including its potential for shared value creation. All the White Papers were recollected from the ventures' websites unless specified otherwise. Additional documentation was consulted in some cases whenever the White Paper only included technical characteristics for the ICO and did not include information regarding the project itself.

5.2. Method

As previously discussed, Porter and Kramer (2011) identified three distinct but non-exclusive ways to create shared value; 1) reconceiving products and markets, 2) redefining productivity in the value chain and 3) enabling the development of local clusters. These three methods for creating shared value will serve as the basis of the taxonomy of the most successful Initial Coin Offerings of the last couple of years covered in the previous section. This taxonomy will expectantly provide some insight into the potential of creating shared value by these firms and of blockchain technology proper.

The method of extracting relevant information from the data presented previously is content analysis. Content analysis helps to identify the taxonomy of shared value creation in the sample. Formally, it is "a research technique for making replicable and valid inferences from data to their context". (Krippendorff, 1989; P. 403). In content analysis, the traditional sources of data are texts to which meanings are usually attributed, for example verbal discourse, written documents and visual representations (Krippendorff, 1989). In the case of this thesis, written documents are the source of data, as specified earlier, in the form of White Papers and other press communications by the new ventures.

The information extracted from the White Papers will provide a short description of the projects, what their aims and objectives are and how they approach them. This will provide a systematic analysis of the selected sample in order to identify the key characteristics that allow the development of the taxonomy within the three methods of creating shared value by Porter and Kramer (2011), which will be developed further in the results section.

6. Results

6.1. Project descriptions

For each ICO case studied a short introduction of their activity and ICO is effectuated using content from ICO related Whitepapers and the websites of token issuers. Some studied ICOs such as SingularDTV and Lisk cases followed marginal structures. SingularDTV's white paper only details the mechanisms of the tokens issued and details concerning the initiative are shared through videos (SingularDTV a, 2016). Lisk website does not provide a whitepaper, however its "documentation" section contains a Protocol, gathering similar information than what is expected in a white paper (Lisk, 2016). Furthermore, the whitepaper proper is hosted on the website Github, a platform where software developers can share code and participate in open source software projects. In such cases, the analysis relies on documentation, video content and on informal articles reporting on the

initiatives. The aim of this analysis is to attempt to gain an understanding of the activities implemented and their potential for shared value creation. The companies are sorted by launch year of their ICO and based on the proceedings gathered.

6.1.1. Initial Coin Offerings 2016

6.1.1.1. WAVES

WAVES is a decentralized blockchain platform that focuses on custom blockchain tokens operations. The platform allows for the integration of fiat currency through compliant gateway operators. WAVES also offers a lightweight wallet client to access the token exchange in order to lower the learning curve for end users (Ivanov, 2016). The WAVES platform enabled the creation of tokenized versions of fiat currency, such as the USD and the EUR by gateway operators. With this mechanism, the fiat tokens can be transferred to the blockchain at a higher speed and with lower fees than with traditional exchangers. This makes it possible to trade fiat currency in the platform, as well as tokens, in any combination possible. The lightweight client makes it more accessible to the average user, since other wallet systems like Ethereum require the user to download the entire history of the blockchain which can be time inefficient. The lightweight wallet client is also designed with ease of use in mind. These characteristics lower the technical knowledge necessary to take part in their offered services, making it more accessible to the general public.

WAVES offers custom token creation, deletion and transfer; a decentralized token exchange where bid and ask transactions are matched against each other; anonymity features; and asset to asset trading for its users. The platform is designed in a way that enables it to be adaptable to new needs by the users. New transaction types or tokens can be added on the platform without creating the need for users to update their software. This adaptability is allowed by the fact that additional elements are planned to be added through a plug-in system instead of being added in the core software module of the platform. WAVES also integrates the possibility of tying tokens to national currencies, thus replicating traditional trading infrastructures. Moreover, it is made possible on the platform to trade tokens, which results in a possibility to trade crypto assets for other crypto assets rather than having to pass through traditional fiat currencies to trade (Ivanov, 2016).

The aim is to offer a decentralized token exchange that can be used for fundraising, crowdfunding and trading of financial instruments on the blockchain. It aims to be user friendly to incentivize mass adoption by the average user in order to increase the network effects of blockchain technology. By lowering the technical knowledge necessary to take part in an exchange, the platform aims to increase the adoption rate of cryptocurrencies and their use. Moreover, the WAVES platform aims at being able to quickly adapt to innovations on the blockchain and the new use cases they imply. The targeted structure for the community is a similar one that the ecosystems evolving on Appstores (Ivanov, 2016).

6.1.1.2. Ionomi

The Ionomi Digital Assets Management Platform is a marketplace for digital assets. It allows anyone from users barely starting on blockchain to users with high levels of expertise on the blockchain to invest and manage digital assets. The platform provides with a wide range of digital assets and combinations of digital assets called “Digital Asset Arrays” for users to invest in (Zagar, et al., 2016).

The platform hosts a marketplace where asset managers and investors can meet. Managers bundle together digital assets in what is called “Digital Asset Arrays” (DAA) and try out the winning potential in the market. They then can share their strategies with the community on the platform. Investors have the possibility to choose between various DAAs and invest their own digital assets. Good performance in a DAA builds the manager’s reputation and is designed to attract new investors (Ionomi, 2017)

Iconomi aims to enable investors of all skills, knowledge and purchasing power levels to invest in potentially disruptive new businesses in the very early stages. Iconomi's mission is twofold; first to cater opportunities to investors looking for high profits. Second, to bring an influx of fresh capital into the distributed economy of the blockchain, which will provide funding for "exciting new projects and boosting the value of digital assets along the way" (Zagar, et al., 2016, p. 2).

Iconomi provides potential investors at all levels with the opportunity of investing in new ventures within the platform. This has the potential to match more efficiently investors and projects by aligning their interests and goals with each other. This matching could also be benefited by the element of stakeholder involvement in the development of the project, since potential users may be part of the investor pool that finances the initial stages of the project.

6.1.1.3. Golem Project

Golem is the "first truly decentralized supercomputer, creating a global market for computing power" (Golem, 2016, p. 1). Golem powers decentralized microservices and asynchronous task execution lowering the price of computations, complex applications, scientific calculation and machine learning making them accessible to a large public. Golem gathers the computing power from any user registered in the network, from laptops to supercomputers, and makes it accessible to anyone that needs it to perform complex and costly tasks.

Golem connects computers in a peer-to-peer network, allowing software developers, researchers and users ("requestors") to rent resources from the machines of other users ("providers"). The supply of computing power could come from any consenting provider with idle resources on their computers. These rented resources can be used to complete tasks that require any amount of computation time and capacity. Core to Golem's built in features is a dedicated Ethereum-based transaction system that enables direct payments between requestors, providers and software developers (Golem, 2016).

Today's cloud computing infrastructure is supplied by centralized cloud systems, constrained by closed networks, proprietary payment systems and hard coded provisioning operators. According to the Golem Project, this leads to bigger players leveraging their market power and assets to ensure large margins, leading to inefficient prices for computing services. Golem's solution enables additional agents to take part in the cloud computing market. This has the potential to lower computing costs, decentralize the services and allow for individual users to rent out idle computing power from their systems in exchange for money (Golem, 2016).

6.1.1.4. SingularDTV

SingularDTV is a blockchain-based digital content management and distribution platform. Its objectives are to allow artists and content creators to not rely on middlemen to reach consumers and to directly receive the revenues from their work. The direct payment system implemented between creators and their clients is thought to be potentially faster than the usual contract-based payments, which frequently results in delays in the matter of months (SingularDTV b, 2016; Tapscott & Tapscott, 2017). The idea behind the project is to eliminate third-party institutions or mediators like Netflix and YouTube which manage and distribute content created by other parties. The platform is steering towards a consumer-to-creator network (Young, 2016).

The blockchain based digital content distribution system is designed to allow artists and creators to produce, monetize, protect and manage their own creations on a platform built on top of the Ethereum network. It relies on a tokenized ecosystem with a cryptocurrency called SNGLS. The token is programmed with the terms and conditions of SingularDTV and its intellectual property. The tokenized ecosystem protects the intellectual property of creators and allows them to receive revenues instantly whenever their content is consumed (Young, 2016).

The aim of the project is to empower individual artists and creators with complete control over their creations and monetization methods in a new ecosystem for the art and entertainment industry. It is believed that the project has the potential to lead to the development of new monetization methods and eliminate the monopolistic distribution that lessens the profits achievable by content creators. The platform allows creators to display, distribute and produce films, television properties and music while protecting their copyrights in one single platform (SingularDTV b, 2016; Young, 2016; Tapscott & Tapscott, 2017).

6.1.1.5. *Lisk*

Lisk is a network that allows development and distribution of JavaScript based decentralized applications. Through their platform, developers can build, publish, distribute and monetize their applications within a cryptocurrency enabled system that utilizes custom blockchains, smart contracts, cloud storage and computing nodes (Lisk, 2016). Lisk aims to be the first modular cryptocurrency, every Blockchain App created on Lisk is on its own sidechain and separate from the main blockchain, which will aid in scalability issues that are present in Bitcoin, to give an example (Ogundeji, 2016).

The Lisk project possesses its own network, platform ecosystem and Software Development Kit (SDK) that allows any developer to build functioning applications in their ecosystem in a decentralized way. It also allows developers to build their own side-blockchains with specific use cases and also build applications on top of them. Instead of a Proof-of-Work, or Proof-of-Stake system, Lisk uses a Delegated Proof-of-Stake system, which means that every token holder can vote for delegates which in turn secure the network and earn rewards from block generation (Lisk, 2016).

The aim of the project is to give developers all the necessary tools to develop their own blockchains and to be able to build platform independent applications on top of their own blockchains. These applications can be social networks, messengers and games, amongst others, rather than being dependent on centralized solutions like the App Store from Apple or the Play Store by Google (Lisk, 2016).

6.1.2. Initial Coin Offerings 2017

6.1.2.1. *Tezos*

Tezos is described as a public decentralised blockchain aiming at establishing a “digital self-governed commonwealth”. Contrary to blockchains such as Bitcoin and Ethereum which use a proof-of-work system where miners solve complicated equations with their computers to validate the transactions on a new blockchain, Tezos token holders are rewarded with additional tokens for participating in a proof-of-stake mechanism to reach consensus in the blockchain. This mechanism is less costly and does not concentrate the consensus to individuals with high computing power. Thus, Tezos is designed in a way that its community can shape its growth and innovations through a consensus mechanism (Goodman a, 2014; Goodman b, 2014).

Tezos facilitates formal verifications to secure smart contracts and decentralized apps through the mathematical verification of the correctness of codes implementing transactions. Such a process ensures the security of the platform in an automatic and untampered way (Tezos a, 2017; Tezos b, 2017).

The governance rules designed by Tezos attempt to permit stakeholders to be able to accept changes in the protocol advancements so these can get implemented automatically after having been approved. In order to incentivise developers to propose enhancement solutions for the platform, developers of accepted enhancements are rewarded with tokens. The whole structure of Tezos is designed to create an active community, a decentralized maintaining mechanism and suited reward systems (Tezos c, 2017).

The focus surrounding the Tezos initiative is to implement actual governance in a blockchain. The strategy is to provide a framework that enables a continuous enhancement of the rules governing the protocol and reward users participating into the improvement process. Such a format aims at avoiding the rewarding and empowerment of only development teams and miners, which is considered as a form of centralisation (Tezos c, 2017).

6.1.2.2. *Bancor*

Bancor is a protocol that enables price discovery and a liquidity mechanism for tokens on smart contract blockchains based on a formula that continuously calculates price depending on buy and sell volumes. It is inspired by the Keynesian proposal of a supranational reserve currency to systematize international currency conversion after WWII (Hertzog, et al., 2017).

Smart tokens are tokens designed by the Bancor protocol, they provide continuous liquidity while automatically facilitating price discovery. The price for a token issued with the Bancor protocol is based on the “Constant Reserve Ratio” or CRR. This value is set by the token creator, for each reserve token, and used in price calculation, along with the smart token’s supply and reserve balance, based on the following equation:

$$Price = Balance / Supply \times CRR$$

The reserve can be held in a different smart token, any standard ERC20¹ token or Ether. Smart tokens on the Bancor Network are issued when purchased and destroyed when liquidated, making it always possible to purchase a smart token with its reserve token, and to liquidate a smart token to its reserve token, at the current price (Hertzog, et al., 2017).

Moreover, Bancor addresses the issue of the complexity of actions on the blockchain. The platform provides simplified interactions with chatbots to create tokens. Therefore, users can set the parameters of the tokens through answering questions to chatbot and without needing to code. Such an approach targets small businesses or start-ups that cannot afford to acquire such knowledge (Hertzog, et al., 2017).

The protocol aims to enable the creation for smart tokens for the general public and to solve liquidity problems that a new token may have due to low transaction volume. The problem the protocol aims to solve is one related to networking effects. Since the tokens have no connection between each other, the value does not flow between tokens and its users. By having a token issued with the Bancor protocol, tokens will have an inherent liquidity with other tokens and will make use of network externalities (Hertzog, et al., 2017).

6.1.2.3. *Status*

Status is an open source messaging platform and mobile interface to interact with decentralized applications that run on the Ethereum Network. Status is a social network in which all parties possess a stake in the system, aligning incentives and goals benefiting all participants. While traditional social networks offer services for “free” in exchange for data from user activity and advertising, Status will commoditize these services with their own token system (Status, 2017).

The issuance of the Status Network Token (SNT) will allow the behaviour of the network and its software to be aligned with the interest of its users. Tokens are necessary to perform actions in the mobile client, and token holders may have active participation to steer the direction of the development of the network over time (Status, 2017). As a token holder, users will be able to perform

¹ ERC20 compliant tokens are tokens following a set of rules so that they can evolve on the same blockchain platforms or be compatible with each other

transactions and make use of all the functions in the mobile application. Furthermore, only token holders have the ability to vote on the decision-making process of the network, effectively turning users into stakeholders that will benefit from the actions of the project.

The project aims to tackle issues in current social networks, such as automated software (bots) that control social media accounts and media manipulation. Social networks run under a user-as-a-product business model in which the owner, users and advertisers operate under different incentives and goals in mind. Current models fail to provide a means by which their incentives can coexist and be aligned with the user-as-a-stakeholder business model. Status is aiming at providing a platform with a model that considers users as stakeholders and that incentivises them to be active members through the use of their tokens (Status, 2017).

6.1.2.4. *TenX*

TenX is a company based in Singapore, created in 2015. TenX services bundle the TenX debit card and the mobile wallet TenX Wallet, which can store and transfer any kind of current or future crypto currency and blockchain assets. Furthermore, it can be used as a way of payment for goods and services as it instantly exchanges the tokens or assets for fiat currency, when a payment is effectuated. TenX services can be used in at least 200 countries and over 36 million points, which has been made possible through agreements and partnerships with the main credit card companies (TenX, 2017).

The TenX Wallet enables users to spend blockchain assets through their smart phone or through a physical debit card, which is also provided by TenX. The wallet is made with ease of use in mind and is configured within a smartphone application. The multicurrency wallet can be funded with different cryptocurrencies and will only be converted to fiat currency until an actual transaction takes place. The wallet also allows seamless conversion between blockchain assets within the application (TenX, 2017).

TenX will transfer their application on to the COMIT Network by the end of 2017. COMIT is a blockchain network that aims to connect different Blockchain protocols, inspired by the TCP/ICP protocol that created enabled the Internet in the 1990s (TenX, 2017). The motivation behind moving the application to the COMIT network is that, similar to the Internet protocol, this will allow more users to access the application and its functions regardless on which platform they normally use, greatly increasing the network effect for the project.

TenX is aiming at providing a large user access to the most varied possible range of blockchain tokens and assets. The decentralised and international payment device and change platform is provided as the solution to link the crypto world to the real economy and eventually consumption. The project targets the issue that might represent the growing pools of tokens, businesses and tokens issuers on different blockchain platforms. With the TenX project, the token users can be ensured of the liquidity of their assets and are provided with solutions to use these in everyday life (TenX, 2017).

6.1.2.5. *MobileGo*

The MobileGo Token was created by Gamecredits, the first crypto mobile gaming store. The gaming store has a proprietary payment gateway that allows gamers to use Gamecredits to buy in-game content. The credits can be acquired with credit cards and local payment methods. There are currently over 300 games and 150 developers signed on the store (MobileGo, 2017).

The aim of the tokens is to apply gamification techniques to the mobile platform, and to incentivize gamers for loyalty and participation through a reward system. The tokens will also allow for the use of smart contract technology, developing a decentralized virtual mobile gamer marketplace that allows decentralized match-playing between users and to run decentralized gaming tournaments on the platform (MobileGo, 2017).

The mobile gaming market is currently dominated by Google Play and Apple, which currently control over 98% of the mobile game market. According to Gamecredits, this puts major restrictions on most gaming developers and gamers through pricing and lock-in. Built around cryptocurrency, Gamecredits is an alternative choice that will provide benefits for all stakeholders. It will lower revenues fees from 30% in current alternatives to 10% in Gamecredits. Pay-outs will be made quicker than the current wait time of 60 days. Although they do not specify the waiting period in their system, it will likely be a result of the transaction time instead of the result of a fixed period designed by a contract between the parties. The benefits for gamers will revolve around game discounts, incentives to use credits through in-game coupons and rewards and through offering a wider range of payment options for users (MobileGo, 2017).

6.2. Shared Value Creation Taxonomy

6.2.1. Reconceiving products and markets

The first method of creating shared value attempts to bring a positive answer when questioning whether a product or a service produced by a company is good for the customer, potentially addressing societal needs, benefits and problems. This method is the most commonly addressed in the analysed sample of blockchain companies. Most, if not all, attempt to offer an alternative product or service that benefits the customers to a larger extent than already existing solutions.

6.2.1.1. *Tezos*

Tezos aims to tackle issues related to the high cost and centralization of the proof-of-work system by implementing its own proof-of-stake mechanism to reach consensus in the blockchain. Because it does not rely on computing power of individual users, the mechanism is less costly and allows the average user to participate in the consensus. It may be interesting to note that Tezos found an additional way to reconceive the blockchain with the market, meaning the technology might not be yet refined enough for mass adoption.

6.2.1.2. *Bancor*

The Bancor Protocol aims at creating a user-friendly platform with less risks and uncertainty for users. One could argue that such an approach correlates with the way to create shared value through the reconceiving products and markets (Porter & Kramer, 2011). It is already possible to create and exchange tokens freely on the blockchain network, however one could suggest that these actions are very costly to perform in term of human capital and knowledge. Bancor proposes what could be considered as a reconceived version of what is already possible to implement on the blockchain. The Bancor protocol institutionalises and automatizes actions such as exchanging tokens through their smart contracts. The products could be considered as ameliorated as, in the case of token exchange for example, blockchain users used to have to ensure of the safety of their actions if not, the risk would be for them to lose their tokens. With Bancor, such transactions are made simpler through safe smart contracts, notably for new blockchain users (Hertzog, et al., 2017).

Furthermore, the service provided to create tokens through the exchange with a chatbot enhances the possibilities offered by the blockchain technology by simplifying them for potential users lacking in technical knowledge or resources. Another feature can also be considered as an opportunity offered to small businesses; the reserve system makes any token tradeable. Indeed, the issue for small businesses or start-ups wanting to issue their own token is liquidity. If a token is not highly demanded, it might not be liquid. Whereas, with the Bancor protocol and its reserve system, even tokens with

small reach are liquid, which represents new opportunities on the blockchain for new or small businesses. This can increase network externalities, allowing to use the tokens created for a specific case or community but also to trade them with other tokens since their inception.

6.2.1.3. *Status*

It could be suggested that Status proposes an ameliorated alternative to current social media by answering the need for privacy and security communicated by a share of the users. Hence, one could suggest that Status creates shared value through the reconceiving of products and markets (Porter & Kramer, 2011). Indeed, the aim of Status is to reconceive the business model of social media, in putting users at its core and considering them as stakeholders rather than products. The new business model can be considered as a solution for users that do not want to pay for free services with their personal data being sold to advertisers. It therefore results in a decrease in privacy risks related to current alternatives and business model. Furthermore, the Status model attempts to integrate fully its stakeholders in the business model, hence in upcoming developments.

6.2.1.4. *TenX*

Some issues faced by token owners are related to the feasibility of using crypto currencies and assets for non-blockchain centric goods and services. Indeed, due to the fairly newness of the blockchain technology, its tokens and smart contracts, cryptocurrencies remain a niche asset. The technology is not yet widely adopted, which can result in few straightforward solutions for asset use or exchange. These deficiencies in effortless mechanism might be considered as a deterrent for new user to adopt the technology.

One could suggest that TenX creates a new market on the blockchain, attempting to link the blockchain network with the real-world economy. Indeed, there is currently not any direct means to use tokens or assets for everyday life simple uses. If a token holder wishes to use its assets to, for example, buy goods in a store, it has to exchange the assets to fiat currency and transfer them to a bank account linked to a credit card. TenX offers an unprecedented set of services allowing the automatization of these transactions. It could be suggested that the services provided by TenX are making the blockchain assets simpler to use and therefore are participating in an expansion of the blockchain user base by decreasing technical entry barriers. This could be related to the reconceiving of products and markets as a way to create shared value (Porter & Kramer, 2011).

A possible analysis of the TenX project could be that it targets user-related issues and shortages in solutions or services. Its business model provides direct solutions for users, which also beneficiates other companies and their token holders. Indeed, while improving the services offered to all token holders and creating a market for credit card linked to cryptocurrencies, TenX encourages new users to join the blockchain network, making it more adopted.

6.2.1.5. *MobileGo*

MobileGo addresses the quasi duopolistic situation of the mobile gaming market. This situation is believed to be involving various issues for developers and users, the most obvious being a lock-in regarding gaming stores. Further issues addressed include fee reductions and overall lower costs for developers and gamers. This can be linked to the reconceiving products and markets to create shared value (Porter & Kramer, 2011). Gamecredits also provide the solution to link a cryptocurrency with the mobile game market. It could be suggested that a nuance of shared value is created by this business model as it proposes considerably lower revenue fees than what is currently operated in the industry.

6.2.1.6. *WAVES*

WAVES addresses the issue of the difficulty of access that can be observed on the blockchain. Indeed, as previously stated, this technology remains a niche platform which requires a considerable

level of skills, to be used properly. The project proposed by WAVES represents a new platform on which users can implement activities, enjoying better quality and new features. One could suggest that this project aims at providing a better user experience on the blockchain and mechanisms making the access easier for potential users lacking skills and knowledge.

6.2.1.7. Iconomi

The proposal of Iconomi is to create a network that facilitates the contact creation between assets managers and potential investors, without restricting on the minimum amount of investment. Such a platform is believed to allow access to users that are not yet fully well-informed or familiarised about the blockchain technology and users with small investment capacity. The structure of Iconomi, similar to the structure of a traditional Venture Capitalist, can be suggested as a possible mean to introduce altogether traditional investor and new small investors to the disruptive technology and the innovative businesses activity it hosts.

Furthermore, Iconomi provides investment solutions that are solely blockchain-centric. The specialisation of the firm in blockchain businesses and assets allows the creation of a side effect; capital influx towards the blockchain distributed economy are ensured. Hence, one could suggest that the services provided by Iconomi are user-oriented in the sense that they are aiming at creating a user-friendly experience while protecting these latter from system failures or vagueness regarding the skills of the assets managers. Moreover, the focus of this investment platform on blockchain assets only could be regarded as an indirect investment and backing of the blockchain community.

6.2.1.8. Golem Project

The Golem Project addresses not only the issue of centralisation of cloud computing infrastructure, the inefficiencies in price they create but also the considerable quantity of idle computers and unused resources they represent. Golem aims at creating a new market for computing power renting on the blockchain, aside from existing centralised clouds. Indeed, one could suggest that this project is aiming at using the full potential of the blockchain technology in order to provide its users with a service that is faster and less costly. One could also add that that this project can be, similarly to MobileGo, a possible solution to quasi duopolistic situations in which few providers solutions with high fees are available to users.

6.2.1.9. SingularDTV

Alongside with MobileGo and the Golem Project, SingularDTV aims at exploiting the potential of the blockchain technology so as to answer problematic situations in which current systems are failing to provide fair or efficient solutions for users. The project targets the issues faced by content creators and artists in their activities. Current systems revolve around middlemen putting into contact artists and content creators with clients. These additional interactions often result in supplementary taxes and delays due to, between others, human inefficiencies of platforms. One could suggest that the project reconceives products and markets in redesigning platforms in which clients and providers exchange and adapting them to the blockchain.

6.2.1.10. Lisk

The project led by Lisk targets similar issues than SingularDTV, Golem or MobileGo, between others. It attempts to decentralise content creation, in order to empower individual creators and users. As in the other cases previously named, Lisk project adapts and ameliorates an already existing type of market place such as App stores to the blockchain technology. Indeed, Lisk project is not only an app store, it is also providing a creation and networking platform, creating additional value for its users.

6.2.2. Redefining productivity in the supply chain

The second method for creating shared value puts emphasis on the link between societal needs and productivity in the value chain, focusing on internal costs and externalities. The traditional approach emphasizes the role of geographical location, although it could be argued that the blockchain could bypass geographical constraints of the value chain. Thus, creation of privileged relations to local populations that create employment and circuits of distribution and cooperation could be made regardless of geographical location.

6.2.2.1. *Golem Project*

The initiative led by Golem team provides users with a redesigned supply chain. On the Golem platform, the blockchain technology allows the creation of a network in which providers of computing power and users are in direct relation. This platform and its design enable the setting of prices reflecting more accurately the values of what is traded, rather than imposed by central providers upon the demand (Golem, 2016). Indeed, this project follows one of the core targets of the blockchain technology which is to cut superfluous middlemen involving additional costs to transactions and sometimes price asymmetries.

6.2.2.2. *SingularDTV*

In this project, a new network of services is created thanks to the blockchain technology. Content creators and artists are at the core of the business model of SingularDTV. The aim is to provide them with a direct and simple platform while protecting these providers from inefficiencies resulting in delays of payment. The supply chain is also revisited in this project, using the capacity of blockchain networks to be automatized, decentralised and revolving around pre-set smart contracts ensuring payments. Moreover, the technology is making trackability of products and their use embedded in these latter, such innovation allows the respect of intellectual property and prevents from abusive use of content.

6.2.2.3. *Lisk*

One could argue for the fact that the type of redesign catered by Lisk is equivalent to redefining productivity in the value chain (Porter & Kramer, 2011). Indeed, adapting the business model of an app store to the blockchain implies the decentralisation of operations and the implementation of new tools and channels of communication such as crypto currencies and smart contracts. Moreover, instead of relying on central app stores, developers can operate on their own on the blockchain community.

6.2.3. Enabling development of local clusters

The third and final method of creating shared value is related to the positive externalities of the support between companies and the infrastructure available nearby. This type of shared value is created when companies are able to connect their success to the success of the local community in general, either by job creation, seeding new companies or increasing the supply of skilled workers.

6.2.3.1. *Tezos*

Due to the open source nature of blockchains, there are multiple stakeholders with individual interests. Previous blockchains did not address this issue and as a result, have resulted in “hard-forks” – which consists in a split within the community, resulting in the creation of a parallel blockchain with some distinct features- in the project due to the inability to dynamically innovate as a result of coordination issues (Goodman a, 2014). This results in a loss of cooperation within the community

cluster into fragmented sub-clusters from hard-forks in the blockchain protocol. The predefined consensus mechanism allows Tezos to evolve based on decision making by all its stakeholders.

6.2.3.2. WAVES

The WAVES platform is aiming to reach a structure alike from the Appstores ecosystems and describes itself as an initiative that targets community-based projects and developments. It is possible to argue that the WAVES initiative is aiming at enabling the development of future local clusters on its platform and therefore creating shared value. The core design of WAVES is thought to be adaptable to any addition desired by its community, hence it allows the community of users and the actions and products available to them to grow quickly and efficiently. Such a structure enables the creation of separate clusters on the platform provided by WAVES. Indeed, WAVES uses the potential of the decentralisation offered by blockchain in providing the possibility for users to create plugin-like extensions to enhance their network on the blockchain.

6.2.3.3. SingularDTV

It would be possible to argue that the network created by SingularDTV also enables the creation of a cluster of artists and content creators linked through the use of similar smart contracts and platform. Such a concentration of users can represent an additional added value for these latter, as the more creators use smart contracts and signal any dysfunctionalities, the better the service provided is.

6.2.3.4. Lisk

The platform provided by Lisk could be considered as facilitating to create a cluster of developers through its network. Indeed, as in the case analysis of SingularDTV, the network is bringing together developers into a blockchain community, tied by its platform, cryptocurrencies and networking effect. Moreover, as stated previously the network of developers and the blockchain platform are considerably interdependent as the quality of the blockchain enhances the user experience and the more users join the platform and signal discontent or issues on it, the easier it is to enhance the platform.

7. General results

It is conceivable to propose that the blockchain technology and its networks are thought to inherently create shared value as they encourage to revisit current organisational structures and activities. Certainly, the focus on reducing middlemen and their impact on additional fees and costs could be analysed as what is theorised by Porter and Kramer (2011) as the revisiting of value in the supply chain, in an organisational way. Interactions between customers and providers of goods and services are restructured thanks to the help of smart contracts and blockchain networks; blockchain networks are attempting to give more importance to stakeholders and make them capable of raising concerns and assessing more freely the quality of the products and services they decide to use.

The adaptation of existing structures such as app providers, gaming platforms and such to the blockchain technology or the creation of markets on blockchain networks could be analysed as related to the process presented by Porter and Kramer (2011) as the revisiting of markets and products. One could suggest that to be able to implement activities on the blockchain, entrepreneurs are required to adapt their activity to the new technology and the mindset of its community. Moreover, the breakthrough innovations enabled on the blockchain are encouraging the creation of new markets which could technically not be implemented beforehand.

As previously stated, blockchain networks and their maintenance rely heavily on the community of investors, users and miners. Such a structure could also be related to the theorisation of shared value creation effectuated by Porter and Kramer (2011). Indeed, new networks mainly focused on their community could be considered as facilitations to create clusters in which parties are directly put in contact and in which providers are empowered by their competitors' innovations and in which users can enjoy the diversity and proximity of providers alternatives. Networks such as the ones analysed in the data part could be conceptualised as local blockchain clusters.

8. Discussion

8.1. Initial Coin Offerings and Initial funding

The blockchain supports a system of businesses creating decentralised applications, platforms and networks. The technology also offers the possibility to create various tools, contracts and assets such as cryptocurrencies. The Initial Coin Offering process which results in issuing of new crypto currencies represents an innovation within the funding possibilities for businesses aiming at shared value creation. Indeed, such businesses face crucial issues regarding their initial funding; they produce blended returns, partly financial and partly social, which can deter investors using traditional channels of investment.

It is possible to propose the following analysis concerning Initial Coin Offerings; these innovative financing means represent the possibility to directly connect entrepreneurs, potential clients and investors with various degrees of investment potential. The direct connection made between business initiatives and potential stakeholders is a crucial aspect of ICOs, making it possible to include stakeholders in business decision making and initial funding efforts.

White papers, technical papers and the like are used by parties issuing new coins as their main channel of communication with potential investors and users. Indeed, such documentation aims at providing detailed information regarding the value created by the project, its aim and the technical implementation of the project on the blockchain itself. One could suggest that white papers can be considered as an approximatively standardised mean to signal for shared value creation by potential projects. This signalisation mechanism can be related to the guidelines suggested by Yunus et al. (2010) and Bugg-Levine et al. (2012) for businesses to attract investors driven by their will to meet societal changes. In fact, before deciding to acquire tokens in an Initial Coin Offering for further use, or to invest in and back a project deemed worthy, parties are provided with these documents. Hence, it may be possible to analyse white papers as signals of potential shared value created by the projects. Additionally, the success of the ICO could be related to the appreciation of users and investors of the veracity of the proposition and of its potential, either financial, societal or both.

8.2. The Blockchain technology and its Shared Value Creation

The qualitative results can lead one to suggest that various degrees of shared value creation are observable on the blockchain. Indeed, some initiatives studied presented potential for several types of shared value creation while some others presented potential for the creation of a single type

of shared value creation. Moreover, not all projects seem to have in their business models or aims deeply rooted social missions. However, it is possible to analyse various nuances of shared value creation in each project. This observation could lead to a hypothesis; shared value is created on the blockchain de facto.

The blockchain technology and its networks fostered innovation that are making considerable decentralisation, automation and improvements in communication possible. The enhancement of such mechanism could be considered as enabling the reconsideration and redesign of business models. Indeed, the blockchain technology has a pronounced focus on maintaining of a strong and closely tied community. The technology allows businesses to create models in which the stakeholders are central, can possibly vote for changes or even operate them independently. Moreover, it is possible to include potential stakeholders in the very first steps of business projects, notably through the possibility for them to acquire tokens when issued and investing in initiatives that are deemed worthy.

The open source aspect of the blockchain community pushes further transparency and interactions with the community. The code generating in which public blockchains are written is available to the community which can, by itself, scrutinise and evaluate their solidity and safety. The open source of the code enhances interactions between ventures and the community as parties can signal any fragility in the code, and is even encouraged to do so such practice permits to benefit both the issuer of the code and the users involved with it. Furthermore, less technically experimented entrepreneurs or developers can enjoy the availability of free data to learn from and base their own code on when launching a network or an app.

8.3. Limitations of the findings

When assessing and analysing the blockchain technology and its networks it is crucial to keep in mind its novelty. The technology is not widely adopted yet, and this might make it easier for new ventures to create shared value while adapting existing products to the blockchain or while making use cases of the blockchain more user-friendly. Existing non-blockchain products and markets need to be adapted to the platform, leading to de facto shared value creation through the amelioration of existing products or the creation of new markets. Such an observation is also applicable regarding several of the cases analysed in the data part. Various projects led in ICOs such as Bancor or Tezos are amelioration of services and networks already more or less informally existing on the blockchain. These projects are aiming at making the application of the technology more user friendly, enhancing its products and therefore creating shared value.

However, one could suggest concerns regarding the pursuing of this positive trend in shared value creation on the blockchain. It is possible to suggest that as the technology will become more widely adopted and as its applications will become more user friendly, there might be less room left for considerable value creation regarding the revisiting of markets and products.

The findings of this thesis, also have to be analysed and taken with caution. This project analysed the ten most successful Initial Coin of 2016 and 2017. The sample is extremely limited in size and represents a considerable bias as only successful ICOs are studied. Indeed, it could be suggested that shared value creation is more likely to be found in projects widely supported by the public rather than in failure cases.

As in the nuance brought to the theoretical framework built by Porter and Kramer (2011), it can also be opposed to the findings of the thesis; they do not take into account the consequences of the

changes on organisational structures and activities implied by the blockchain. The main target of the technology is to allow to reduce the use of middlemen to increase the rapidity of transactions and decrease their costs. It could be argued that these changes might have considerable negative impacts on job markets and job creations. However, the analysis led in this thesis do not assess such an issue.

8.4. Further research suggestions

Based on the findings of this thesis and their identified limitations, it is possible to highlight guidelines regarding possible extensions of this project and further research.

It can be considered that this thesis represents a premise of research attempting to analyse potential for shared value creation on the blockchain. Possible pursue of this research would be to analyse the variations in price of the tokens post ICO as a signalling of the appreciation of the users and investors of the implementation of projects, in parallel to the developing of the said projects.

It could also be suggested for further research to analyse both success and failure cases of ICOs, in order to assess whether potential for shared value creation is widely observed in both pools of projects and whether potential for shared value creation is mostly observed in successful ICOs. Furthermore, it could be suggested to analyse investment patterns in Initial Coin Offerings in relation to the degree of potential for shared value creation observed in the proposal.

Further research could also be focusing on monitoring the evolution of projects implementing ICOs and the degrees in which they attempt to ameliorate the blockchain, on a longer time period. As expressed in the limitations of the findings, the positive results regarding potential for shared value creation on the blockchain might be linked to the initial situation in which the technology is and might not persist as it gets more widely adopted.

Finally, the taxonomy could be developed further. It could be suggested to first effectuate a classification of ICO projects and what type of offer they represent (services, blockchain platforms...) and then analyse and compare the potential for shared value creation in each group.

9. Conclusion

The blockchain technology and its applications are not yet widely adopted and remain in their very early stages. To this day, academic research on blockchain remains relatively scarce and many gaps still remain to be completed with new studies. Some core features of the blockchain itself, such as the relative anonymity it grants to its users can prevent from the implementing of academic research on the matter.

The aim of this study is to attempt to suggest a theoretical framework that is not yet linked to the technology and that could open a possible new field of research regarding the blockchain and the businesses it hosts. The main focus is the highlighting of potential for shared value creation on public blockchain initiatives. The qualitative approach allows to suggest a method to identify potential for shared value creation through the content of white papers related to ICOs.

While none of the projects have launched a commercial version of their project, it would be difficult to assess the shared value creation of the companies. However, their potential can be addressed and to some extent the sample provides some insight into the potential of the blockchain as a whole. From the analysis, it is possible to conclude that all the projects have a potential to create shared value

through the reconceiving of products and markets and to a lesser extent, through the redefinition of the productivity in the value chain or through enabling the development of local clusters.

The results might suggest that aside from the aim of each project, it is the nature of blockchain technology also that enables all the necessary characteristics for shared value creation. Indeed, the blockchain technology has been built around the notion of decentralisation, automation and community. It targets at enabling the creation of direct communication channels between members of communities and therefore to facilitate the creation of clusters. Moreover, the blockchain requires a sensible adaptation of traditional business models in order to be implemented on its platforms which creates a wave of opportunities to create shared value through the adaptation of products and markets. Furthermore, the focus on decentralisation implies the creation of new models in which traditional intermediaries are replaced by smart contracts. This can be considered as a source of potential for shared value creation through the redefinition of productivity in value chains.

Considering the analysis and the results from the thesis, it is possible to conclude that indeed blockchain technology possesses a substantial potential to enable shared value creation for new ventures. Further research will be necessary to track the progress of these ventures and to realise whether these projects will actually be able to create shared value in practice and what the reaction from the stakeholders will be.

10. References

- Alcazar, V., 2017. Data You Can Trust: Blockchain Technology. *Air & Space Power Journal*, 31(2), pp. 91-101.
- Asheim, B. T. & Gertler, M., 2005. The Geography of Innovation: Regional Innovation Systems. In: *The Oxford Handbook of Innovation*. s.l.:s.n.
- Blowfield, M. & Murray, A., 2008. *Corporate Responsibility- A Critical Introduction*. New York: Oxford University Press.
- Bugg-Levine, A., Kogut, B. & Kulatilaka, N., 2012. A New Approach To Funding Social Enterprises: Unbundling societal benefits and financial returns can dramatically increase investment. *Harvard Business Review*, January- February.
- Catalini, C. & Gans, J. S., 2016. Some simple economics of the blockchain. *MIT Sloan Research Paper No. 5191-16; Rotman School of Management Working Paper No. 2874598*.
- CoinSchedule, 2017. Cryptocurrency ICO stats. [Online]
Available at: <https://www.coinschedule.com/stats.php>
[Accessed July 2017].
- Conley, J. P., 2017. Blockchain and the Economics of Crypto-tokens and Initial Coin Offerings. *Vanderbilt University Department of Economics Working Papers. VUECON-17-00008*.
- Davidson, S., De Filippi, P. & Potts, J., 2016. *Economics of Blockchain*. Fort Lauderdale, Proceedings of Public Chocie Conference .
- Dawson, D. & Daniel , L., 2010. Understanding social innovation. *International Journal of Technology Management*, Volume 51, pp. 9-21.
- de Meijer, C. R. W., 2016. Blockchain and the securities industry: Towards a new ecosystem. *Journal of Securities Operations & Custody*, 8(4), pp. 322-329.
- Edquist, C., 2005. Systems of Innovation: Perspectives and Challenges. In: *The Oxford Handbook of Innovation*. s.l.:s.n.
- Fagerberg, J., 2005. Innovation: A Guide to the Literature. In: *The Oxford Handbook of Innovation*. s.l.:s.n.
- Freeman, R. E., 1994. The politics of stakeholder theory. *Business Ethics Quarterly*, 4(4), pp. 409-421.
- Freeman, R. E., Wicks, A. C. & Parmar, B., 2004. Stakeholder Theory and "The Corporate Objective Revisited". *Organization Science*, 15(3), pp. 364-369.
- Friedman, M., 2007. The social responsibility of business is to increase its profits. In: *Corporate Ethics and Corporate Governance* . s.l.:s.n., p. ????.
- Golem, 2016. *White Paper: Golem Network*. [Online]
Available at: <https://golem.network/doc/Golemwhitepaper.pdf>
[Accessed July 2017].
- Goodman a, L. M., 2014. *Position Paper: Tezos, A self-amending crypto-ledger*. [Online]
Available at: https://www.tezos.com/static/papers/position_paper.pdf
[Accessed July 2017].

- Goodman b, L. M., 2014. *White Paper: Tezos, a self-amending crypto-ledger*. [Online]
Available at: https://www.tezos.com/static/papers/white_paper.pdf
[Accessed July 2017].
- Gupta, M., 2017. *IBM Blockchain: IBM Limited Edition "Blockchain for dummies" e.book*. [Online]
Available at: <https://www.ibm.com/blockchain/what-is-blockchain.html>
[Accessed July 2017].
- Hazlett, K., 2007. The White Paper Marketing Handbook: How to Generate More Leads in Sales with White Papers, Special Report, Booklets, and CDs. *Journal of Consumer Marketing*. Vol. 24. Issue 2. Pp. 121-122
- Hertzog, E., Benartzi, G. & Benartzi, G., 2017. *White Paper: Bancor Protocol, Continuous liquidity and asynchronous orice discovery for tokens through their smart contracts; aka "Smart Tokens"*. [Online]
Available at: https://www.bancor.network/static/bancor_protocol_whitepaper_en.pdf
[Accessed July 2017].
- Iansiti, M. & Lakhani, K. R., 2017. Te truth about blockchain. It will take years to transform business, but the journey begins now.. *Harvard Business Review*, January-February, pp. 118-127.
- Iconomi, 2017. *Digital Assets Arrays: Iconomi*. [Online]
Available at: <https://www.iconomi.net/arrays>
[Accessed July 2017].
- Ivanov, S., 2016. *White Paper: wavesplatform*. [Online]
Available at: https://wavesplatform.com/files/whitepaper_v0.pdf
[Accessed July 2017].
- Kastelein, R., 2017. What Initial Coin Offerings Are, and Why VC firms care?. *Harvard Business Review Digital Articles*.
- Krippendorff, K., 1989. Content Analysis. *International encyclopedia of Communication*, Volume 1, pp. 403-407.
- Lisk, 2016. *Documentation: The Lisk Protocol*. [Online]
Available at: <https://docs.lisk.io/docs/the-lisk-protocol-technical-background>
[Accessed July 2017].
- Lundvall, B. A., 1992. *National Systems of Innovation: Towards a Theory of Innovation and Interactive Learning*. London: Pinter.
- Lundvall, B. A., 2008. National Innovation Systems- Analytical Concept and Development Tool. *Industry and Innovation*, Volume 1, pp. 95-119.
- McElroy, M., 2002. Social innovation capital. *Journal of Intellectual Capital*, Volume 3, pp. 30-39.
- Michelini, L. & Fiorentino, D., 2012. New business models for creating shared value. *Social Responsibility Journal*, 8(4), pp. 561-577.
- Mitchell, R. k., Agle, B. R. & Wood, D., 1997. Towards a theory of stakeholder identification and salience: Defining the principle of who and what really counts. *The Acaademy of Management Review*, Volume 22, pp. 853-886.

- MobileGo, 2017. *White Paper: MobileGo token*. [Online]
Available at: <https://mobilego.io/pdf/MobileGo-Whitepaper.pdf>
[Accessed July 2017].
- Mulgan, G., 2006. The process of social innovation. *Innovations: Technology, Governance, Globalization*, Volume 1, pp. 145-162.
- Nakamoto, S., 2008. *Bitcoin: A Peer-to-Peer Electronic Cash System*. [Online]
Available at: <https://bitcoin.org/bitcoin.pdf>
[Accessed July 2017].
- Ogundeji, O., 2016. *Lisk to move developers from blockchain to sidechain: Cointelegraph*. [Online]
Available at: <https://cointelegraph.com/news/lisk-to-move-developers-from-blockchain-to-sidechain>
[Accessed July 2017].
- Pfizer, M., Bocksette, V. & Stamp, M., 2013. Innovating for Shared Value. Companies that deliver both social benefit and business value rely on five mutually reinforcing elements.. *Harvard Business Review*, September.
- Phillips, W. et al., 2015. Social innovation and social entrepreneurship: A systematic review. *Group & Organization Management*, 40(3), pp. 428-461.
- Porter, M. E. et al., 2017. *Measuring Shared Value. How to Unlock Value by Linking Social and Business Results.*, www.fsg.org: Foundation Strategy Group.
- Porter, M. & Kramer, M., 2006. Strategy and Society: The Link Between Competitive Advantage and Corporate Social Responsibility. *Harvard Business Review*, December.
- Porter, M. & Kramer, M., 2011. Creating Shared Value: How to Fix Capitalism and Unleash a New Wave of Growth. *Harvard Business Review*, January.
- SingularDTV a, 2016. *SingularDTV SINGLS Creation Specifications*. [Online]
Available at: <https://coss.io/documents/white-papers/singulardtv.pdf>
[Accessed July 2017].
- SingularDTV b, 2016. *Video Content: SingularDTV*. [Online]
[Accessed <https://singulardtv.com/> July 2017].
- Status, 2017. *White Paper: The Status Network, A strategy towards mass adoption of Ethereum*. [Online]
Available at: <https://status.im/whitepaper.pdf>
[Accessed July 2017].
- Sundaram, A. & Inkpen, A., 2004. The corporate objective revisited. *Organization Science*, 15(3), pp. 350-363.
- Surujnath, R., 2017. Off the chain! A guide to clockchain derivatives and the implications on the systemic risk.. *Fordham Journal of Corporate & Financial Law*, 22(2), pp. 257-304.
- Tapscott, D. & Tapscott, A., 2017. Blockchain Could Help Artists Profit More from Their Creative Works. *Harvard Business Review Digital Articles* .
- TenX, 2017. *White Paper: TenX, payment platform*. [Online]
Available at: https://www.tenx.tech/whitepaper/tenx_whitepaper_final.pdf
[Accessed July 2017].

Tezos a, 2017. *Overview: Tezos, The self-amending cryptographic ledger*. [Online]
Available at: https://www.tezos.com/static/papers/Tezos_Overview.pdf
[Accessed July 2017].

Tezos b, 2017. *Tezos Technology*. [Online]
Available at: <https://www.tezos.com/technology>
[Accessed July 2017].

Tezos c, 2017. *Tezos Governance*. [Online]
Available at: <https://www.tezos.com/governance>
[Accessed July 2017].

Underwood, S., 2016. Blockchain Beyond Bitcoin. Blockchain technology has the potential to revolutionize applications and redefine the digital economy.. *Communications of the ACM*, 59(11), pp. 15-17.

Venkataraman, S., 2001. Stakeholder value equilibration and the entrepreneurial process. *Darden Business School Working Paper*, 1(4).

Winborg, J. & Landström, H., 2001. Financial bootstrapping in small businesses: examining small business managers' resource acquisition behaviors. *Journal of Business Venturing*, Volume 16, pp. 235-254.

Wright, G., 2017. 30 years of innovation, Top 10: #9 Blockchain. *Global Finance*, June, 31(6), pp. 50-50.

Yildirim Saatci, E. & Urper, C., 2013. Corporate Social Responsibility versus Social Business. *Journal of Economics, Business and Management*, 1(1).

Young, J., 2016. *Articles: BitcoinMagazine*. [Online]
Available at: <https://bitcoinmagazine.com/articles/singularDTV-a-decentralized-netflix-on-ethereum-1472760808/>
[Accessed July 2017].

Yunus, M., Moingeon, B. & Lehmann-Ortega, L., 2010. Building Social Business Models: Lessons from the Grameen Experience. *Long Range Planning*, Volume 43, pp. 308-325.

Zagar, T. M. et al., 2016. *White paper: Ionomi*. [Online]
Available at: <https://coss.io/documents/white-papers/ionomi.pdf>
[Accessed July 2017].