



SCHOOL OF
ECONOMICS AND
MANAGEMENT

Understanding the Initial Coin Offering Investor

Towards developing a dynamic model of ICO investor motivations

by

Tobias Jung & Royce Wang

May 2020

Master's Programme in Entrepreneurship & Innovation

Supervisor: Joakim Winborg

Examiner: Andrea Moro

Abstract

Purpose: Initial coin offerings are a nascent form of venture finance. Research in this field is limited; at the same time, knowledge about the investors involved in the field is apparently absent. This research seeks to extend the knowledge about ICO investor motivations and enhance grounded theory development.

Methodology: A qualitative research approach is used. Nine in-depth, semi-structured interviews were conducted with seven initial coin offering investors. To present our findings and analysis in a structured and logical way, the Gioia method is applied in analyzing our data.

Findings: This study finds strong support for financial motivations to invest, but also the motivation to change the status quo, to acquire knowledge, and to join the community. Furthermore, the study reveals inter-relationships between external and internal motivations, which are anchored in technological properties.

Implications: The results suggest that ventures and investors could benefit from understanding the influential motivations in the investment decision. Furthermore, the findings imply that regulators need to consider investor motivations in their development of legal frameworks around decentralized finance solutions.

Contribution: This is the first qualitative study to investigate initial coin offering investor motivations. The research adds deepened insights into the motivational nature of investors, while adding visualizations of the findings in a dynamic model.

Keywords: Initial Coin Offering; Utility Token Offering; Security Token Offering; Entrepreneurial Finance; Blockchain

Acknowledgements

The authors are grateful for the interview participants, who shared their individual experiences and knowledge. Therefore, these individuals made this study and its conclusions possible. In addition, we want to thank Sotaro Shibayama for the valuable feedback and asking challenging questions during our seminar sessions, Joakim Windborg for the abundance of food for thought to approach our research from different angles during the supervisions and Kalyan Pasumathy for sharing his financial insights and cautioning us of potential reddit trolls. Lastly, we want to thank Ethereum for being on a bullish trend towards mainstream adoption (no financial advice, just Ethereum maximalism).

Glossary

ICO	Initial Coin Offering
UTO	Utility Token Offering
STO	Security Token Offering
SDT	Self-Determination Theory
BTC	BTC token
ETH	Ethereum token
IPO	Initial Public Offering

Table of Contents

1. Introduction	6
2. Theoretical Framework	8
2.1 Initial Coin Offerings	8
2.1.1 Blockchain Technology	8
2.1.2 Transaction Process	11
2.2 Self-Determination Theory	13
2.3 ICO Investor Motivations	14
2.4 Crowdfunding & ICOs	15
2.4.1 Similarities of Crowdfunding and ICOs	15
2.4.2 Differences of Crowdfunding and ICOs	16
2.5 Crowdfunding Motivations	16
3. Methodology	20
3.1 Research Approach	20
3.2 Research Design	20
3.3 Sampling strategy	21
3.4 Ethical considerations	22
3.5 Reliability and Validity	23
3.6 Data Collection	24
3.7 Data Analysis	26
4. Findings	27
4.1 Data Structure	27
4.1.1 Intrinsic Motivation	29
4.1.2 Extrinsic Motivation	32
5. Discussion	37

5.1 Motivational Intra-relationships	37
5.1.1 Intrinsic Motivation	37
5.1.2 Extrinsic Motivation	39
5.2 Extrinsic & Intrinsic Inter-relationships	40
6. Conclusion	42
6.1 Limitations	43
6.2 Implications and Future Research	43
References	45
Appendix A	50
Appendix B	52

1. Introduction

The focus of entrepreneurial finance is funding highly innovative ventures that often operate within high uncertainty regarding venture success, which makes it hard to acquire capital through the conventional forms of finance. With the rise of blockchain technology, new alternatives to finance these ventures have surfaced over time. One such alternative, Initial Coin Offerings (ICOs), offers a new possibility of acquiring capital for technology-based ventures through the method of token sales. These tokens provide different token dependent functions, enabling its sales to realize profits (Momtaz, 2018). As innovation improves, these technologies begin to impact the financial landscape:

“Next generation capital formation will change the way entrepreneurs and young companies can raise money to fund the next ‘great ideas’.”

Sandra Ro Chief Executive Officer at Global Blockchain (Nascimento, 2019)

ICOs are a new form of finance, gaining popular traction within the three-party ecosystem of ventures, investors, and regulators (Boreiko and Sahdev, 2018). Due to its novelty, there exists a white gap in ICO research as well as in the relevant mechanisms involved in this venture financing process (Fisch, 2019). Furthermore, concrete details are lacking about the factors that influence the capital amounts raised from ICOs (Mollick, 2014). Understanding the ICO investor in the role of capital provider is crucial to broaden our knowledge in the field of entrepreneurial finance.

A dilemma exists between classifying the ICO as a new form of entrepreneurial finance (An *et al.*, 2019) and classifying the ICO as an existing form of the crowdfunding concept (Fridgen *et al.*, 2018). Due to the novelty of ICOs, there exists no prevalent definition for the concept (Fisch, 2019). Although crowdfunding is an existing field, experts draw parallels in the two fields from the observed similarities, but also acknowledge the protruding technological differences (Fridgen *et al.*, 2018). For the scope of this study, we explore ICOs under the umbrella of the established financial mechanism of crowdfunding, keeping in mind the existence of the similar and distinct characteristics of the two funding mechanisms in the field of entrepreneurial finance to investigate motivations of ICO investors.

As forerunners in researching ICO investor motivations, Fisch, Masiak and Vismara (2019) found strong support for intrinsic and extrinsic investor motivations in the form of financial motives. By highlighting that ICO investors are financially, ideologically, and technologically motivated, the study provides an initial starting point to understand the ICO investor. Their interpretation of a prominent intrinsic motivation leaves room for further investigation as it conflicts with the protruding extrinsic investor motivations in other forms of finance (Katzenmeier *et al.*, 2019). Subsequently, the empirical nature of the study, performed through online surveys, leaves room for research for unknown motivations. Given

more depth and details, a qualitative study is implemented to fill the aforementioned white gaps in the academic discussions.

Understanding these investors does not only help to fill white spots in nascent ICO research, but also helps to provide insights for 3 main parties: entrepreneurs, investors, and regulators, respectively. Crucial fundraising insights help entrepreneurs lower fundraising hurdles for funding their venture growth. On the other hand, investors are able to increase their investment opportunities in their portfolio through insights into the ICO landscape. Above all, insights into the ICO landscape contribute to the regulatory community in efforts to adapt societal infrastructure towards innovations in financial technology.

To engage in such relevant contributions, this study builds upon Self determination theory to extend the knowledge about motivations of ICO investors by drawing upon their individual experiences. Self determination theory has also been used as a concept to uncover investor motivations in the domain of crowdfunding (Gerber and Hui, 2013; Allison *et al.*, 2015; Bretschneider and Marco, 2017). These findings support the extrinsically and intrinsically motivated nature of the investors involved in the financing process. Furthermore, within ICOs, it has been shown that there is an equal distribution of investors, who are investing less than 250 USD up to more than 100,000 USD (Fisch, Masiak and Vismara, 2019). This heterogeneous ICO investor behavior, implies heterogeneity within ICO investor motivations, promising rich qualitative insights into individual informants on this capital spectrum. In addition, blockchain technology might satisfy both intrinsic and extrinsic investor motivations, implying inter-relationships. Moreover, acquiring insights in individual approaches and opinions of this heterogeneous group provides a deeper understanding of the ICO industry as a whole. In the context of investor motivations, our study will focus on the following research questions:

What motivates the ICO investor?

How are these ICO investor motivations inter-related?

In the remainder of this study, we introduce the ICO concept and discuss a theoretical framework of motivations in the domain of ICOs and crowdfunding. Then, we present our methodology section on which our qualitative analysis is based upon. Afterwards, findings are presented and discussed. The study ends with the provision of concluding remarks and a provision of implications for future research and practice.

2. Theoretical Framework

2.1 Initial Coin Offerings

Initial Coin Offerings offer a new instrument for ventures to raise money from external investors through the sale of “tokens”. Even though the concept seems clear, scholars have not yet established a prevalent definition of ICOs in the context of entrepreneurial finance yet. These definitions range from focusing on the general concept of ICOs to categorizing it into the field of entrepreneurial finance. Dell’Erba (2017) focuses on the blockchain aspect of ICOs, which makes it a novel and unique form of capital exchange issued on a blockchain. Giudici, Adhami and Martinazzi (2018) introduce ICOs as an open call for funding, which enables capital acquisition through the sale of tokens for cryptocurrencies. These issued tokens can then be sold on the internet in exchange for products, services or profits. Amidst this phenomenon, other scholars have started to emphasize the importance of characteristics of the crowd of investors involved in the process. For instance, Fisch (2019) defines ICOs as a mechanism to raise capital by selling tokens to a crowd of investors, implying similarities to the crowdfunding concept. Recently, ICOs have been characterized as a novel form of crowdfunding (Fridgen et al., 2018). Before we dive into details into the classification, this chapter will introduce the technical characteristics of blockchain technology, cryptocurrencies, tokens, and the value that ICOs provide to establish some common concepts and terminology for the subsequent discussion for various readers of this paper.

2.1.1 Blockchain Technology

Operating on a decentralized platform, a blockchain is a shared ledger that requires a majority agreement to update transactions through the form of disintermediation, immutable records and smart contracts (Brennan, Lunn, 2016). Furthermore, the blockchain is a data structure on which blocks, containing transaction data between parties, are chained interdependently through a hash code. This hash code summarizes the data of the previous block (Xu et al., 2017). Due to the hashing process, any text can be transformed through the use of an irreversible key, leading to air-tight security, accuracy, and immutability of registrations (Giudici, Adhami and Martinazzi, 2018). In detail, each person involved on the blockchain has their own private key and a public key, which can be shared with other involved agents in the network. During the transaction process, the receiver shares their public key with the sender of a token. These public keys are destinations on the blockchain, and every token is connected to these destinations (Pilkington, 2016). Moreover, the anonymity aspect, which is a result of not having to disclose one’s identity on the blockchain from anonymous public keys, enable blockchain-based cryptocurrencies as a new alternative to traceable fiat currencies that are tracked on centralized intermediaries, such as banks.

Cryptocurrencies

Bitcoin, the first cryptocurrency, was released in 2008 by an anonymous team of developers called Satoshi Nakamoto (Giudici, Adhami and Martinazzi, 2018). The Bitcoin blockchain provides a platform to trade Bitcoin tokens (BTC), a publicly acknowledged decentralized cryptocurrency, on a public ledger without intermediaries; currently, it is considered the most widely-used cryptocurrency. Furthermore, Bitcoin is described as a first-generation blockchain, due to its nature as a currency transfer; the introduction of “smart contracts” produced inspiration for second-generation blockchains like the Ethereum ledger (Swan, 2015).

When publishing its white paper, Vitalik Buterin (2014) presented Ethereum as a public blockchain that uses Ether tokens (ETH) as an exchange currency, referred to as “crypto-fuel”. This blockchain is preferred for its computational power and its relatively low transaction fees. In addition, the Ethereum blockchain enables the use of smart contracts, programs, which enable two parties to execute safe transactions once priorly established conditions are met without having to trust the other individual; the rules within the smart contract are enforced by Ethereum consensus protocol. Moreover, Ethereum introduced the ERC20 (Ethereum Request for Comment) standard, which provides rules for the creation of coins developed on the Ethereum blockchain (Cohney et al., 2019). The ERC20 standard provides start-ups with the tools to perform their own ICOs and resulted in a great increase of ICOs in 2017 (Magas, 2018).

ICO function

Giudici, Adhami, and Martinazzi (2018) introduce ICOs as a company initiated open call for funding by trading their own “token” for cryptocurrencies. They can be seen as a form of venture finance that allows companies to raise funding by selling to a large crowd of investors (Fisch, 2019). Investors, who acquire these tokens, can then sell them on the internet, obtain token-based services, or profit from increasing token values. In detail, tokens provide either a utility or a security function. Thus, ICOs can further be broken down by these to functions:

Utility token Offering (UTO): Tokens can be used to purchase a service or product that the company provides, once it is developed. Furthermore, utility tokens unify a payment and an investment instrument and are only exposed to low regulation in most jurisdictions. (Momtaz, 2018)

Security token Offering (STO): Offers ownership and control rights to the owner. These tokens are subject to securities laws. Thus, they can classify as tokens that are offering shares of ownership, dividends, or other financial benefits to the investor. (Ante and Fiedler, 2019)

Cohney et al. (2019) breaks down the complexity of the dynamics between the ICO and the utility token through the use of a simple Coca-Cola example. In order to fund an initial deployment of Coca Cola vending machines, the company raises money through the sale of tokens, which can be used to get drinks from the machines, when the funds are implemented in the venture operations. For the ICO investor, this can be an enticing investment, assuming they commit a financial investment for the token(s) at a favorable price point during the ICO; the investor would expect an appreciation of their investment from an increase in the demand of Cola drinks. This transaction process provides expected value to the investor and the venture of interest, which will be elaborated further in the following section. Though the utility aspect of a token is publicly understood, the separation between utility and security token is not quite easily understood. Ultimately, these ambiguous token definitions are heavily reliant on regulatory implications, including regional jurisdictions.

Regulatory differences between UTO & STO

Although the concept of the ICO came with real-world benefits, the ICO landscape was plagued with real-world problems, such as fraud. More than three quarters of ICOs performed in 2017 were considered scams (Satis Group, 2017), inciting regulators to step in for investor protection in the market. Regulating 40% of the global equity and bond market, the Security Exchange Commission (SEC) has exhibited a weighted influence on the global legislative discussion around ICOs, providing guidance to other legislative bodies around the world (Nascimento, 2019). Dell'erba (2019) describes how the SEC defines a security through the Howey Test, which identifies the measures that an entity can measure in an issued token for Security Token classification:

1. The investment of money
2. In a common enterprise
3. Under the expectation of profits
4. Comes from the efforts of the promoter or third parties

Thus, as a potential UTO performing venture performs a transaction with an investor, who is led to expect a future reward of profit in their investment, the venture entity falls under the jurisdiction of securities law and risk regulatory punishment within their regional legislative body. In other words, a venture can offer a token to provide a utility service; when an investor expects financial gain, the token is classified as a security token. Since the SEC is a regional entity, regulation varies across different countries (Nascimento, 2019). Thus, even though ICOs are a global phenomenon, the country of issuance has a great impact on investor

certainty with regards to legal security. To summarize the current situation, what can be promoted as a UTO in one country, is a regulated STO in another.

2.1.2 Transaction Process

When examining ICOs, two main stakeholders are involved: the blockchain technological venture and the public platform investor. In the earlier sections, we noted that blockchain ventures leverage ICOs as a way to finance their venture operations from public funds through the means of cryptocurrency. As other venture financing methods exist, why do blockchain ventures prefer ICOs? Simultaneously, why do investors choose ICO platforms to invest their money? As ICOs offer a new mechanism to finance the venture, this section will draw upon the specific benefits of this form of financing for both parties involved: the business and the investor.

Benefits for Business

Adhami et al. (2018) credits the use of blockchain in ICOs to lower the cost of capital raising without the involvement of third-party facilitators, leveraging the technological benefits of cryptocurrency. This cryptocurrency transaction enables the stakeholders to skip transaction fees and holding periods that come with bank intermediaries; in doing so, blockchain ventures leverage the full amounts raised and can spend the funds on operations as soon as the transaction with the investor is recorded. While a traditional Initial Public Offering (IPO) may require the company to release crucial information for public investors, the company within an ICO offering may choose to selectively release relevant information in the form of a white paper; the disclosed information becomes a major indicator to the success of the ICO campaign, as investors act upon available information on the ICO profile (Momtaz, 2018). Compared to lengthy IPO public documents, blockchain ventures need only to release white papers, source code, and a listed price to be eligible for transactions (Fisch, 2018). As ICOs are non-intermediary obstacles, third-party intermediaries, such as banks, get bypassed through the provision of a smart contract (Buterin, 2014). This process substitutes the cost, the time, and the trust issues of other forms of financing, if the venture can provide the human capital threshold to establish a trustworthy and functioning contract code. Since companies do not have to wait for approval on blockchain transactions, these blockchain-based ventures can operate with higher fluidity and execute founder decisions to pursue their high-risk business concepts without the restraint of stringent shareholder agreements and stakeholder oversights.

Benefits for Investor

For the investor, the ICO is a niche segment for investment opportunities. Due to the knowledge-intensive nature of ICOs, the party behind the ICO initiative is normally blockchain oriented. Adhami et al. (2018) discusses that open source ICO projects allow

investors to invest within a specific community. Cryptocurrency exists in finite amounts and is a requirement for the ICO transaction process. Thus, those in possession of the digital currency have a threshold understanding of the blockchain technology to be able to navigate the ICO investment process during the offering; this suggests that investors can understand and align with the information on the innovative opportunity. Although the information about the opportunity is limited by the venture, those investing in the technology have a willingness to bet on the potential appreciation of the venture's future value. Fridgen (2018) notes that ICOs possess a layer of low transparency, as ventures selectively provide information about the venture and technology. To compensate, the investors enjoy a borderless access to a multitude of information on venture offerings. Meanwhile, the ICO exhibits more democratic characteristics, as the knowledge of the investor is indicative to the quality of the investment transaction. Adhami et al. (2018) suggests that ICO investors enjoy the benefit of a secondary financial market to sell their issued ICO tokens for profit; to compensate for transparency, ICO investors possess assets that are higher in liquidity than that of its traditional IPO stakeholders in third party transaction processes. Furthermore, with ICO transactions, investors enjoy the benefit of autonomy with the feature of a pseudonym in the smart contracts (Pilkington, 2016). Depending on the regulatory environment, transactions cannot be traced to personal details of the actual investors; ramifications of taxation requirements and potential failure cannot be linked back to the investor's real identity, allowing for flexibility in their investment activities. As ICO investors are exposed to a globally accessible number of ICOs (Huang, Meoli and Vismara, 2019), they have a broad spectrum of investment options. Thus, understanding the motivations behind an investment decision is of great importance for the ICO undertaking venture competing for investors.

The Investor

In order to investigate the behavior of investors, one must define the investor first. We define investors as a *provider capital with the expectation of future profits*. This, on the other hand, does not imply that the initial investment decision is always of purely logical nature; aside from influence of financial returns, the decision can be influenced by other factors. A rational investor, who is purely motivated by profit, is able to understand market information and is able to perfectly evaluate risks and rewards effectively (Lin, 2014). This concept of a rational investor is highly theoretical and far from the realistic nature of an investor, who practices investment behaviors in the real world. Furthermore, investors are human, thus emotions and personal motivations are inevitable, as they are essential characteristics of a human being. SDT provides researchers a framework to further understand the various motivations (Ryan and Deci, 2000); this framework has been implemented in investigations of investor motivations frequently in the past (Gerber and Hui, 2013; Allison *et al.*, 2015; Fisch, Masiak and Vismara, 2019).

2.2 Self-Determination Theory

Ryan and Deci (2000) introduce self-determination theory (SDT) as a theoretical framework, explaining the decision-making process of individuals under consideration of their motivation in taking a particular action. This decision is based on a differentiation between extrinsic and intrinsic motivations. Extrinsic motivation refers to performance of an action inspired by an external reward, whereas intrinsic motivation refers to the performance of an action through internal satisfaction, interest, and enjoyment. An intrinsically motivated individual would rather be moved by the enjoyment of fulfilling internal challenges than through external regulation or rewards of an action. Furthermore, there are three essential psychological needs that impact the severity of intrinsic self-motivation: **autonomy**, **relatedness**, and **competence**.

Autonomy refers to the state of being in control (DeCharms, 1968). Thus, behaviors and intentions are led through the individual's own volition and through the individual's ability to choose (Gagné and Deci, 2005). In other words, SDT suggests that external control lowers intrinsic motivation in comparison to individuals driven through autonomous actions. For instance, studies show that children of autonomy-supportive parents display higher motivation in activity engagements than that of children from controlling parents (Grolnick and Ryan, 1987).

Competence can be gained through mastery of a skill and through becoming effective in performing a duty (Harter, 1978). Furthermore, intrinsic motivation will be catalyzed through particularly challenging, interesting, and novel activities (Ryan and Deci, 2000). Especially, when individuals feel responsible for their successful performance (Ryan, 1982). Overall, social-contextual factors that lead towards the feeling of competence enhance performance, whereas factors undermining the feeling of competence diminish intrinsic motivation, which results in amotivation (Gagné and Deci, 2005).

Relatedness can be acquired through connection and through affiliation with others (Baumeister and Leary, 1995). In contrast to individualism, collective attitudes enhance the feeling of autonomy to a greater degree (Ryan and Deci, 2000). In addition, through satisfaction of the need for connection with others, individuals have a stronger tendency to internalize ambient values and processes (Gagné and Deci, 2005). Thus, one must acknowledge that intrinsic motivations are not only of static nature. There exist relationships within this category.

As these three needs enhance self-motivation, they have a crucial impact on investor behavior. Furthermore, the dissatisfaction of these intrinsic needs can even lead to alienation and ill-being (Ryan and Deci, 2000). SDT also shows that the introduced three innate needs for self-motivation display signs of inter-relationships. For instance, an autonomously driven individual might seek challenging tasks to acquire a feeling of competence, which will be

enhanced through positive feedback from others and a feeling of relatedness towards them. Fisch, Masiak and Vismara (2019), who performed an initial study about ICO investors, also interpreted their findings towards an intrinsically motivated investor through SDT.

2.3 ICO Investor Motivations

In their quantitative study, Fisch, Masiak and Vismara (2019) found support for three different dimensions of ICO investor motivations. ICO investors are ideologically, technologically, and financially motivated. As they are pioneers in the research field, their work on ICO investor motivations provides an initial depiction of the ICO investor for our study to draw upon. Their depiction of the ICO investor as a intrinsically-inclined individual is as follows:

First, Fisch, Masiak and Vismara (2019) introduce their research dimensions of intrinsic ideological investor motivation. They argue that ideological reasons to invest into an ICO are linked to the utility token function, social motives (e.g. philanthropy), and the potential disruption of established structures or industries. The argument builds on Gerber and Hui's (2013) findings in crowdfunding finance, who demonstrate investor motivations to support a cause, which aligns with Fisch's (2019) argument for action on personal beliefs. Thus, the ideological argument in the context of ICOs refers to the guaranteed anonymity and decentralization of blockchain technology, which promises decreased intermediation and increased democratization. The arguments, wherein the use of tokens in their intended utility function and disrupting established structures or industries are intrinsic motivations, can be further examined.

For instance, buying a utility token for the purpose of using them in their intended utility function can also be seen as an extrinsic motivation. Regarding reward-based crowdfunding, the protruding extrinsic motivation to invest is the personal need of the promised asset (Katzenmeier *et al.*, 2019). Therefore, this might also be the case for the future service promise of the utility token. Furthermore, the utility function often promises reduced costs due to the non-intermediation procedure, which presents itself as a financially motivated reason in the form of bypassing costly transaction costs of banks (Wiśniewska, 2018). Fisch, Masiak, and Vismara (2019) show high correlation of the ideological motives and the thoroughness to which the investor reads the white paper. They argue that this relationship stems from the provision of information to the investors, which aligns with their ideological views. However, ICOs are characterized through high information asymmetry (Giudici, Adhami and Martinazzi, 2018), which induces higher uncertainty and risk for the capital investor. Thus, due diligence on a study of the whitepaper would be necessary for financially motivated investors to conduct; this diligence process would reduce their risk by acquiring quality venture insights through the whitepaper. There exists an argument for the use of utility tokens to qualify for extrinsic motivations, rather than to qualify for an intrinsic motivational perspective.

Fisch, Masiak and Vismara (2019) argue the disruption of established structures or industries is an intrinsic motivation due to the resulting decentralization and anonymity aspects. This implies increased autonomy towards the investor, as the centralized entities lose control. Autonomy is a strong intrinsic motivation (Ryan and Deci, 2000). But, the erasure of intermediaries by the ICO performing venture also implies incredible financial returns. For instance, if an ICO performing venture would promise a service that substitutes banks, it would suggest that huge parts of the financial industry would become substituted. So, the ICO investment into the venture that breaks through to become the new leading player in the financial industry can be of great extrinsic motivation with financial incentives. Furthermore, the intrinsic technological dimension can be put into question.

The intrinsic dimension of technological motives finds the strongest support in the study. Fisch, Masiak, and Vismara (2019) argue that personal enthusiasm for the technology and the business model and business idea are both intrinsic technological motivations to invest into an ICO. This argument is based on similar findings within crowdfunding finance, which suggest intrinsic motivations in the venture's product (Ryu and Kim, 2016). However, enthusiasm for the business model of an ICO can also result out of optimism regarding its venture success. As the success of the ICO venture increases, the expected value of the token increases accordingly during the token sale, promising high financial returns. Furthermore, Fisch, Masiak, and Vismara (2019) argue that technical knowledge will improve the investor's ability to understand the technical implications of the venture. With regard to information asymmetries, this communicative tool implies less uncertainty in the possible venture success, which can originate from an extrinsic financial motivation.

Lastly, the extrinsic motivation of financial motives will be discussed. The introduced motivations of financial gains and acquiring equity find strong support in their study. As these motives are reflected by debt-crowdfunders and equity-crowdfunders (Katzenmeier *et al.*, 2019); furthermore, the motives are in alignment with our argument for extrinsic motivations from financial rewards, we agree with this interpretation and do not question the extrinsic nature of financial motives.

Although this initial study on ICO investor motivations introduced the ICO investor as an intrinsically and extrinsically motivated individual, we can note that there is a strong argument that the ICO investor is mainly extrinsically motivated by the financial return. This assumption conflicts with the presented characterization of a prevailing intrinsic ICO investor motivation. Thus, this study is an attempt to challenge the initial assumption of a pre-eminent intrinsically motivated ICO investor. As there is little to no knowledge about ICO investor motivations, we make use of existing knowledge of crowdfunder motivations, due to the similarities. These similarities will be introduced in the next section under acknowledgement of the differences between the crowdfunding and ICO mechanism.

2.4 Crowdfunding & ICOs

2.4.1 Similarities of Crowdfunding and ICOs

There are strong similarities of ICOs with regards to crowdfunding as a means to finance new ventures. Belleflamme, Lambert and Schwienbacher (2013) define crowdfunding as “an open call, mostly through the Internet, for the provision of financial resources either in the form of a donation or in exchange for the future product or some form of reward to support initiatives for specific purposes”. First, an ICO is an open call for finance, where the venture broadcasts its token and whitepaper to a sizable audience of potential investors, whose access is limited to their internet connection and access to cryptocurrencies (Fridgen *et al.*, 2018). Second, the venture sells its token for cryptocurrencies; subsequently, these tokens can be exchanged into fiat currencies like the Euro or the US Dollar (Holtmeier and Sandner, 2019). Third, utility tokens promise a future product or service, while security tokens promise equity stakes or future financial returns through dividends (Fisch, 2019). In addition, crowdfunding and ICO investors are not locally bound, as the internet provides a global platform expanding geographical limitations of investments (Huang, Meoli and Vismara, 2019; Di Pietro, 2020). These similarities produce the assumption that ICO investors and crowdfunders also promise similarities in their investor motivations. Meanwhile, one must recognize that there are differences between the two financing instruments.

2.4.2 Differences of Crowdfunding and ICOs

The underlying blockchain technology, which enabled the emergence of ICOs (An *et al.*, 2019), results in several differentiators between ICOs and crowdfunding. ICOs are characterized through their non-intermediation, bypassing banks (Ante, Sandner and Fiedler, 2018), central entities involved in conventional crowdfunding operations. Crowdfunding takes place on so called crowdfunding platforms (Landström, 2017), whereas the decentralized nature of ICOs evades these central entities (Ehram, 2016). Furthermore, ICOs use cryptocurrencies as a medium of exchange (Drasch *et al.*, 2020), which are highly volatile regarding their exchange value (Dell’erba, 2019). This method is in direct contrast to conventional fiat money used in crowdfunding. Another differentiator is that ICO performing ventures are, due to the technological nature of blockchain technology, knowledge-intensive high-tech ventures (Fisch, 2019). Normally ventures need approval through market authorities and legislation, yet ICOs are still highly unregulated (Giudici, Adhami and Martinazzi, 2018); this characteristic of the process suggests high uncertainty with regards to venture legitimacy. In ICOs, smart contracts provide investors with non-intermediary trust (Buterin, 2014). As a result, there are many differences between ICOs and crowdfunding that require acknowledgment when basing assumptions on established findings in the domain of crowdfunding finance.

2.5 Crowdfunding Motivations

In order to analyze ICO investor motivations, we can make use of existing knowledge about motivations in the field of crowdfunding. Studies building on SDT have already demonstrated that extrinsic motivations and intrinsic motivations play a role in crowdfunder actions. This section will focus on introducing the established findings within crowdfunding research based on the different motives to invest. In order to establish assumptions on ICO investor motivations, we will further elaborate on the different forms of crowdfunding and their similarities to ICO token types. Consequently, we will introduce established crowdfunder motivations within the relevant fields of crowdfunding.

Within the field of crowdfunding finance, different forms of crowdfunding have been established based on the value exchange between venture and investor. Landström (2017) splits crowdfunding into four different types: debt-based, equity-based, donation-based, and buy-based. In **debt-based** crowdfunding, investors spend capital with the promise of a greater capital repayment in the future. **Equity-based** crowdfunding enables the investor to acquire shares of the crowdfunding performing venture. Through **donation-based** crowdfunding, the investor receives external recognition, while **buy-based** crowdfund investors receive a future product/service for their investment. As crowdfunding finance is a very recent phenomenon, terminology is varied and is loosely used. Additionally, other scholars refer to loan-based crowdfunding as lending-based crowdfunding and refer to buy-based crowdfunding as reward-based crowdfunding (De Buysere *et al.*, 2012). Some scholars argue that reward-based crowdfunding can offer intangible rewards, such as reputation through public acknowledgement of the donor through accreditation (Cholakova and Clarysse, 2015); moreover, other scholars argue that acquiring immaterial acknowledgement through this exposure classifies as a promise of donation-based crowdfunding. The immaterial nature qualifies, as it does not reflect a tangible reward (Hemer, 2011). Ultimately, this study will use Landström's (2017) recent classification of crowdfunding as a referencing basis for underlying investor motivations.

As mentioned before, there are similarities and differences between different forms of crowdfunding and ICO tokens. Security tokens either provide an equity promise through ownership in the company or provide financial returns through future capital repayment with interest (Sameeh, 2018). As observed, there are strong similarities between security tokens, the introduced debt-based instruments, and the equity-based crowdfunding instruments. Furthermore, there are strong similarities between utility tokens and buy-based crowdfunding instruments, as both propose a future product or service for the initial monetary investment. But as this study makes use of existing crowdfunding knowledge, it must be emphasized that both token types are not completely in line with these three forms of crowdfunding, as differences in their fundamental operations exist. For instance, although utility tokens offer a future service, the future token value depends on the demand of the promised service from the venture, as the token is a necessary requirement to buy the service. Thus, ICO investors might be mainly motivated by the future value increase and sale of the token. Moreover,

buy-based crowdfunding offers the product or service itself, instead of the medium of exchange necessary for acquisition. The motivation to sell a future product or service through crowdfunding is low (Katzenmeier *et al.*, 2019); the venture itself will most likely sell the product for a lower price than the initial crowdfunding investment. Furthermore, we can infer that utility and security tokens promise future financial returns, suggesting a level of obstacles to draw parallels to specific token types in their crowdfunding counterparts, despite the numerous overlaps of the two fields. One such instance exists in the concept of donation-based crowdfunding. Donation-based crowdfunding mainly rewards investors with external public recognition (Hemer, 2011), while blockchain-based ICOs are categorized through investor anonymity (Fisch, 2019). As such, donation-based crowdfunding is the least applicable discussion to the field of ICO finance; therefore, this study will not focus on investor motivations in donation-based crowdfunding.

The **buy-based** crowdfunder, who invests under the expectation of a future product or service, exhibits strong extrinsic motivation in their investment behavior. Gerber and Hui (2013) distinguished between creator and supporter motivations. In the context of ICOs, the creator would be the ICO performing venture, whereas the supporter would be considered the token buyer (ICO investor) in the cryptocurrency transaction. Thus, the findings on supporter motivations are of particular interest in our study. Their findings show strong support for the extrinsic motivation to receive a reward, an experience, or external acknowledgment. Nevertheless, the findings also show strong support for intrinsic motivations, such as community affiliation or venture support. The findings align with the study of Katzenmeier *et al.* (2019), which ranks the personal need of the promised asset as the strongest motivation of buy-based crowdfunders to be followed by the motivation of personal enjoyment. As investors are mainly motivated by the financial return, the buy-based crowdfunder profile, who is motivated by satisfying the need of a product or service, conflicts with our listed investor definition. Buy-based crowdfunding has strong similarities with the sale of utility tokens in ICOs, as both propose a future beneficial product or service for the initial capital investment. Rewards in reward-based crowdfunding seems to not stem from financial incentives, such as appreciation of investments. Although utility tokens offer a future service, the future token value depends on the market's demand of the promised service from the venture, as the token is a necessary requirement to buy the service. In other words, the expected returns carry an additional risk that is dependent on market conditions. The token owner needs to make an arbitrary decision for token usage that includes the following choices: to conduct a token sale on a secondary market, to wait for change in token value, to implement the originally promised service function (Drasch *et al.*, 2020). Diving deeper, in the scenario that the investor holds on to the token and decreases the token supply, the price point of the token can increase on the market, as long as the demand for the token remains unchanged or increases (Drasch *et al.*, 2020). Thus, the ICO investor might be mainly motivated by the increase of token value, rather than the personal demand for the service, implied by the findings on buy-based crowdfunder motivations. Moreover, the alignment of the buy-based crowdfunder and ICO investor motivations remains unclear, leaving room for further research and investigation.

The **debt-based** crowdfunder, who operates on lending platforms seems to have strong extrinsic financial reward motivation. Pierrakis (2019) shows that the interest rates and securities offered by ventures on peer-to-peer lending pages are the dominating motivations in the investment decision. These extrinsic motivations scored way higher than the intrinsic counterparts of his quantitative study. Furthermore, Katzenmeier *et al.* (2019) highlights the discussion that personal identification, enjoyment, and community benefits rank highly on the crowdfunder lender profile's motivational importance score. Additionally, Katzenmeier *et al.* (2019) differentiates between the financial lender, extrinsically driven by the expectations of financial returns, and the pro-social lender, extrinsically and intrinsically driven by the cause or the project. Lenders seem to be intrinsically motivated through relating to the entrepreneur and establishing a feeling of close connection (Allison *et al.*, 2015). Regarding microloan investors, Mollick (2014) argues that these profiles might be less financially incentivized, as they are motivated through the resulting social good from the impactful investment, despite the evaluation of poor investments. Microloans offer more room for more portfolio diversification, as investors can split their capital towards more venture investments and distribute risk throughout their portfolio, since crowdfunders on lending platforms are financially motivated (Paravisini, Rappoport and Ravina, 2010). Thereafter, even though the debt-based crowdfunders have strong financial motivations, one has to acknowledge that other intrinsic motivations exist, particularly on the lower end of the investment amount spectrum, such as microlending.

Lastly, the **equity-based** crowdfunding profile exhibits extrinsic motivation through the expectations of financial returns through their equity investments. Even though equity crowdfunding exhibits a low success rate in potential profits, the expectation of high financial returns is a main motivator of equity-based crowdfunders (Estrin, Gozman and Khavul, 2018). This incentive is emphasized when investors feel as if they are missing out on a lucrative investment opportunity when the funding goal is close to reaching its funding target (Ordanini *et al.*, 2011). Even though the extrinsic financial motivation appears to be of great importance for the equity-based crowdfunder, they are highly motivated through their personal enjoyment, personal identification, and the community benefit (Katzenmeier *et al.*, 2019). Mollick (2014) finds that support and association with a particular cause or an individual founder intrinsically motivates the crowdfunder to invest. Furthermore, equity crowdfunders can find strong internal satisfaction when this support translates into venture success, as it provides a feeling to empower innovation (Schwienbacher and Larralde, 2012). Thus, similar to those of debt-based crowdfunding, equity crowdfunding motivations are characterized through a strong extrinsic financial motivation, as well as intrinsic motivations.

Overall, these profiles of crowdfunder motivations offer a depiction of what to expect from the ICO investor motivations. But the protruding technological differences between crowdfunding and ICO mechanisms (Fridgen *et al.*, 2018), as well as the lack of qualitative research regarding ICO investor motivations (Fisch, Masiak and Vismara, 2019) imply that there are still unknown investor motivations that propel the ICO investor in their investment process.

3. Methodology

This chapter will introduce the methodological approach of the study. The objective is to provide an argument for the chosen approach and execution of the procedure. Adaptation of our methodological approach stems from Bryman and Bell, (2011) who provide a framework for data source selection, ethical considerations in qualitative research. To perform data analysis with regards to developing new concepts possessing qualitative rigor in inductive research, the Gioia approach (Gioia, Corley and Hamilton, 2013) has been chosen.

3.1 Research Approach

In alignment with previous studies in the field of motivations (Bansal and Roth, 2000; Gerber and Hui, 2013), a qualitative research approach was adopted. Qualitative research is commonly used for theory generation (Bryman and Bell, 2011). With regard to the nascency of ICOs as a means of finance and the lack of research in the field (Fisch, 2019), this approach is aligned with the aim of this study to further extend the knowledge about ICO investors and to develop grounded theory.

In addition, this study uses an interpretative approach to further extend our knowledge about the ICO investor and their decision-making process from a motivational standpoint. In line with Weber's 'Verstehen' approach, this research seeks causal explanation through interpretive understanding of social action (Bryman and Bell, 2011). Thus, this study aims to acquire insights about individual perspectives and their reasoning of the world around them.

Moreover, the basis of this thesis is of ontological nature described as constructionism. Therefore, social phenomena, outcomes of individual interactions, and their meanings are in a constant change through their social actors (Bryman and Bell, 2011). Therefore, social phenomena and categories are in condition of constant revision. Social actors within the ICO investor community therefore continuously shape the culture and the organizational process.

3.2 Research Design

This study is intended to be an exploratory study. Drawing on Self Determination Theory (Ryan and Deci, 2000) and following the conceptual framework on crowdfunding processes in the theory section, this study builds upon the limited knowledge of ICO investor motivations (Fisch, Masiak and Vismara, 2019). Thus, our assumptions, such as the various investor motivations and specific investment criteria, are derived from these concepts. Consequently, the cognitive interview framework is a deduction of these concepts. Furthermore, the overarching paradigm of this study is to further investigate the motivations behind the ICO investment process and uncover novel insights to broaden the limited understanding of the ICO investor and provide a foundation for future research. Overall, this study aims to contribute to existing knowledge in the field of ICO finance through further

development on ICO investor motivations and their role in the investment process touching individual experiences, decision criteria and challenges.

Therefore, this study applies a retrospective semi structured interview approach (Pettigrew, 1985) with a sample of participants from the ICO investor community. We choose a heterogeneous set of ICO investors with regards to capital investment volume under the assumption that a heterogeneous sample will provide a greater breadth of experiences and therefore provide a rich data collection. This more general approach is crucial as research on ICOs is still fairly limited (Fisch, 2019). Furthermore, since there exists only limited knowledge regarding ICO investor motivations (Fisch, Masiak and Vismara, 2019), this study employs an open qualitative data collection; developing hypotheses based on assumptions only limits the possibilities of uncovering new, unexplored variables (Gioia, Corley and Hamilton, 2013). Moreover, the semi structured interview approach has already been used to uncover valuable insights in the field of crowdfunding supporter motivations (Gerber and Hui, 2013). In line with the literature review, an interview guide was developed.

3.3 Sampling strategy

In line with the research question, the individuals, looked upon in this study, invested capital into ICOs. In order to generate and develop theory as it emerges, a theoretical sampling approach was chosen (Bryman and Bell, 2011). This approach enables acquiring a deeper understanding of the informants and the formulation of new questions for the creation of concepts and preliminary concepts (Gioia, Corley and Hamilton, 2013).

The sample used to conduct this research was carefully selected over the networking platform LinkedIn. Potential investors were identified through ICO groups on LinkedIn and a search process filtering for ICO, UTO, and STO experiences. These LinkedIn groups contained a broad spectrum of investors, ranging from individuals with general interest in the field to committed investors pursuing ICOs as a fulltime job. Through this approach, we were able to identify high-status investors and lower-status investors with regards to the capital investment spectrum to acquire the intended investor heterogeneity for the research method. Investors were chosen regarding capital investment size. Thus, informants were aimed to represent a mixture of the following investment size dimensions, which were based on learnings from prior studies in the field of ICO investor motivations (Fisch, Masiak and Vismara, 2019):

Table 1. Investment Capital Sizes

Investment Size 1 (I1)	< \$10.000
Investment Size 2 (I2)	\$10.000 - \$100.000
Investment Size 3 (I3)	> \$100.000

We initially contacted 126 individuals on LinkedIn through a contact request attached with a private message including a brief introduction of our research. As a result, 15 investors replied and expressed interest in the study, who were then categorized by investment size. The scheduled interviews consisted of 2 ICO professionals, who focused on advisory in the ICO industry, these interviews enabled us to acquire a deeper understanding about the industry from the venture side. Furthermore, the knowledge from the advisors enabled us to be more prepared during the interviews with the investors to provide more precise follow-up questions in the subsequent interviews. In addition, 7 ICO investors participated in our interviews. The initial interview process was then followed up with 2 additional interviews with investors 1 & 2 to gain deeper insights on investor motivations, as they shared fruitful knowledge in the first round of interviews. The interviewees are presented in the Table 2.

Table 2. Respondent Information

Interview Date	Interviewee	Investment Size	Country
03.04.2020	<i>Advisor 1</i>	-	United Kingdom
05.04.2020	Investor 1	I2	Thailand
06.04.2020	Investor 2	I3	Georgia Lebanon
07.04.2020	Investor 3	I2	USA
10.04.2020	Investor 4	I3	USA
10.04.2020	<i>Advisor 2</i>	-	Ukraine
13.04.2020	Investor 5	I1	Australia
17.04.2020	Investor 6	I1	Ukraine
23.04.2020	Investor 7	I2	USA
06.05.2020	Investor 1	I2	Thailand
08.05.2020	Investor 2	I3	Georgia Lebanon

3.4 Ethical considerations

With regards to research integrity and quality, this study utilized the four ethical principles introduced by Bryman and Bell (2011):

- In order to avoid *harming the participants*, each interviewee is kept anonymous in this study to avoid harm to career prospects. Furthermore, the participants were asked before and after the interview whether they wanted their input to be used in the study.

Through elaborative follow-up questions, interviewees had the opportunity to restructure their thoughts in a stress-free environment.

- *Acquiring informed consent* was achieved through two steps. In our process of reaching out to the interviewees, they were informed about the procedure of the interview. Furthermore, once the Zoom call started, interviewees were informed about anonymity and asked whether the interview can be recorded. After approval recording was started.
- This study put great emphasis on *respecting the interviewees' privacy*. With regards to Market Research Society's guidance, the privacy of the interviewees was neither encroached nor disrespected upon individual values. Once interviewees did not want to further elaborate on certain experiences, follow-up questions were respectfully abandoned.
- About the Code of Ethical Conduct, *deception of the informant* was avoided. Every interviewee knew the scope of our study, as it was accurately and transparently communicated to them in text and in oral agreement before the start of the interview.

3.5 Reliability and Validity

Two crucial criteria to consider when performing business and management research are reliability and validity, especially with regard to the quality of the research for the quantitative researcher (Bryman and Bell, 2011). LeCompte and Goetz (1982) further break down both criteria into an external and an internal dimension providing a robust framework of considerations for the study at hand:

Table 3. Reliability and Validity framework adopted from LeCompte and Goetz (1982)

	External	Internal
Reliability	The degree to which the study can be replicated.	The approval of interpretation of the observed when multiple researchers are involved.
Validity	The possibility of generalization of the results.	Observations acquired and theory generated complement each other.

First, **external reliability** may be an issue of this study. As the emerging ICO landscape is in a rapid shift, industry circumstances of this study cannot be frozen and are likely to be differ in comparison to subsequent studies (Bryman and Bell, 2011). However, this change may be a key observation point in follow-up studies; our qualitative approach, based on semi structured interviews, can be easily replicated. Especially, since the chosen setting of online

Zoom calls showed that it can be successfully applied to informants across different regions of the world. Second, **internal reliability** is achieved through several procedures. Through participation of both researchers during the interviews the experienced input by the informants remained consistent. In addition, through brief post-interview discussions initial inconsistencies were eliminated. Coding of the transcripts was conducted in alignment with both researchers' thoughts. Third, the Gioia-approach chosen for this study provides a strong argument for **internal validity**, as the static data, acquired from initial coding sequence of the interviewees inputs, is transformed into a model of grounded theory (Gioia, Corley and Hamilton, 2013) enables a strong consensus between "the observed" and theory development (LeCompte and Goetz, 1982). Moreover, the use of informant centric first-order analysis and researcher centric second-order analysis (Gioia, Corley and Hamilton, 2013) ensures that neither personal values nor theoretical inclinations influence the conduct of the research and its findings (Bryman and Bell, 2011). Last, **external validity** in qualitative research is a protruding problem in studies with small sample size (Bryman and Bell, 2011). Even though the sample of informants chosen for this study is on the lower end of the spectrum, generalization was kept in mind when sampling for individuals from different spectrums of investment capital.

3.6 Data Collection

Our data collection approach is based on semi-structured interviews. Thus, we are able to preserve flexibility in our interviewing process and adjust our questions towards the individual informants (Gioia, Corley and Hamilton, 2013). We conduct a deep immersion into retrospective understanding of the individual interviewee's experiences in motivational approach in their investment process. As a result, we aim to gain behavioral insights about the ICO investor. At the beginning of each interview, we aimed to acquire general information about an interviewee's background, proceeding with more specific questions in the realm of the assumptions of our theoretical framework. The interviews lasted between 42 and 98 minutes with two researchers in attendance, followed up by a short analysis for pattern observation. Each interview was recorded, and transcribed. In addition, interviewees were asked for interest in follow-up interviews to ask questions that arose from subsequent theory development (Gioia, Corley and Hamilton, 2013). Ultimately, we split our interview guide (Appendix A) in three main overarching dimensions: Motivations, Decision Criteria, and Challenges.

We aim to gather insights on investor **motivations** with regard to extrinsic and intrinsic motivation cues based on SDT (Ryan and Deci, 2000). Thus, we put an emphasis on understanding the role of external factors that influence investment behavior and internal motivations with regards to the following essential psychological needs: competence, relatedness, and autonomy. We have held assumptions with regards to specific ICO related motivations, which build on the underlying blockchain technology, as the main differentiating factor between crowdfunding and ICO mechanisms. For instance, the underlying blockchain technology (An *et al.*, 2019), the expected autonomy is promised through non-intermediation (Ante, Sandner and Fiedler, 2018), relatedness through online

communities, and strong social media activity (Albrecht, Lutz and Neumann, 2019; Fisch, Masiak and Vismara, 2019); these factors are in addition to competence through understanding the underlying innovative technology (Domingo, Piñeiro-Chousa and Ángeles López-Cabarcos, 2020). The argument for the extrinsic motivational nature of the ICO's technological characteristics have been made in the theory section. Furthermore, we assume similarities to crowdfunder motivations with regards to the following motivations: financial gain (Pierrakis, 2019), future service, community affiliation (Gerber and Hui, 2013), support for a cause or project (Katzenmeier *et al.*, 2019), portfolio diversification (Paravisini, Rappoport and Ravina, 2010) and internal satisfaction through enabling innovation (Schwienbacher and Larralde, 2012). Thus, our main question of concern is “*Why do you invest into ICOs?*” to then dig deeper into the motivational reasoning of ICO investors with follow-up questions.

We also attempted to understand the **decision criteria** involved in the investment process of ICO investors. Different investor motivations lead to different criteria investors look for during their investment process. Motivations are the reason to engage in investing, whereas the criteria are used to evaluate different potential investments (Morrisette, 2007). Furthermore, it has been shown that individual investment decision criteria are related to investor motivations (Lukkarinen, Wallenius and Seppälä, 2018). Our main topic question is “*Can you walk us through a recent STO/UTO investment?*”. Through the reconstruction of past investments, the respondent can think back to how and why a series of events developed and enable us to understand their lived experiences (Gioia, Corley and Hamilton, 2013). We ask this question to enable versatility and a richer data collection through a broad spectrum of possible interview responses. The whitepaper can be a deciding factor in the decision, as most information about the ICO is provided through the document (Fisch, 2019). In addition, social media hype and human capital provided by the management team appear to be important decision criteria (Ante, Sandner and Fiedler, 2018; Momtaz, 2018). In crowdfunding offerings, the minimum investment and information availability (Lukkarinen *et al.*, 2016) appear to be important investment decision criteria; therefore, we take the presence of these criteria into consideration of our questionnaire.

We assume there are **challenges** in the investment process. Hence, the main question in this section is “*Did you have any problems during your investment process?*”. We try to gain an understanding into unpleasant investment experiences as we assume, they may provide insights regarding challenges in the investment process. Since ICOs are highly uncertain from high information asymmetry (Giudici, Adhami and Martinazzi, 2018), a possible challenge exists in establishing investor trust, an important investment criteria in entrepreneurial finance (Landström, 2017). The high volatility of the market (Fisch, Masiak and Vismara, 2019) and lack of regulation (Ante, Sandner and Fiedler, 2018) may provide additional challenges in the investment process through the implicated uncertainty. With regards to motivations, SDT argues for a tendency to seek challenges, as curiosity and challenge are catalysts of intrinsic motivation especially when activities stimulate the feeling of novelty (Ryan and Deci, 2000). Thus, approaching the informant from the angle of individual

challenges in the investment process provides our research with additional insights in their motivational nature.

3.7 Data Analysis

The unstructured nature of data collected from interviews calls for a structured and transparent approach of qualitative analysis in order to prevent possible failures (Bryman and Bell, 2011). Thus, a general framework for guidance through the qualitative data analysis is advantageous (Bryman and Bell, 2011). Consequently, this study employs analysis guided through the analytical framework provided by Gioia, Corley, and Hamilton (2013). The Gioia Methodology provides a holistic approach to develop inductive concepts under maintenance of qualitative rigor (Gioia, Corley and Hamilton, 2013). The analysis is characterized through coding of 1st and 2nd order-themes followed up with the development of overarching theoretical dimensions.

The interview transcripts were coded in order to narrow down important themes and define motivations more clearly (Bryman and Bell, 2011). First, we conducted a 10 minute discussion after each interview, lining out particular salient and important aspects that came up in the conversation (Bryman and Bell, 2011). Second, a similar approach to open coding was used (Strauss and Corbin, 1998) to structure the following: transcribed data, an initial number of 89 informant categories, and 1st order concepts; these collections were provided by the interviewees' data, while maintaining informant centric terms (Gioia, Corley and Hamilton, 2013). Through a thorough analysis, we leverage comparisons, overlaps, and contradictions of information from interviewees. Leveraging this set of information, these initial terms were narrowed down towards 35 concepts to increase precision in our analysis. Strauss and Corbin (1998) describes this process as axial coding. These informant-centric 1st order concepts were condensed into more precise, theory-centric 2nd order themes (Gioia, Corley and Hamilton, 2013). After the establishment of 6 2nd order themes, we were able to further distil them into 2 aggregate dimensions, which laid the foundation for constructing our data structure. Afterwards, the static data structure was, through the establishment of dynamic relationships between 2nd order themes, developed into a grounded theory model (Gioia, Corley and Hamilton, 2013) depicting the inter-relationships of ICO investor motivations.

4. Findings

This chapter elaborates on the data structure that is assembled from the coding process of the interview transcripts. In order to visualize the information, acquired learnings about the variables involved in the motivations of ICO investors, terms, themes and dimensions are depicted in several data structure models. This chapter will introduce dimension-centered data structures, focusing on investor motivations to contextualize the current state of ICO investor behaviors. During the interview process, we gained additional insights regarding ICO investor motivations. These motivations are viewed as an important influence on an investor's decision-making process, bringing forth impeding challenges and influential incentives.

Overall, the factors that influenced the investment decisions differed between UTO and STO mechanisms. In addition, UTOs were seen as outdated, as most investors halted investments into UTOs after 2018. Regarding UTO investment decision criteria, the interviewees leveraged public incentives to make their decisions. Through tracking social media incentives and analyzing search engine keyword volumes, assessments about the UTO successes could be made. Investors mainly invested into an idea and betted on a high demand in the token, rather than a proof of concept into a sustainable business model. Even institutional investors skipped their usual due diligence in the UTO investment process. It was seen as a high risk and return gamble. Thus, the determining factor was the initial demand of the token and the resulting value increase.

The decision-making process of investing into STOs is comparable to other forms of entrepreneurial finance. An interviewed venture capitalist explained that they use the same due diligence approach for STOs that reflects the approach of other private equity investments. Personal meetings with the STO-performing venture team and network recommendations were strong influences on the investment decision. In addition, as the regulatory environment develops, STOs are becoming the protruding investment option.

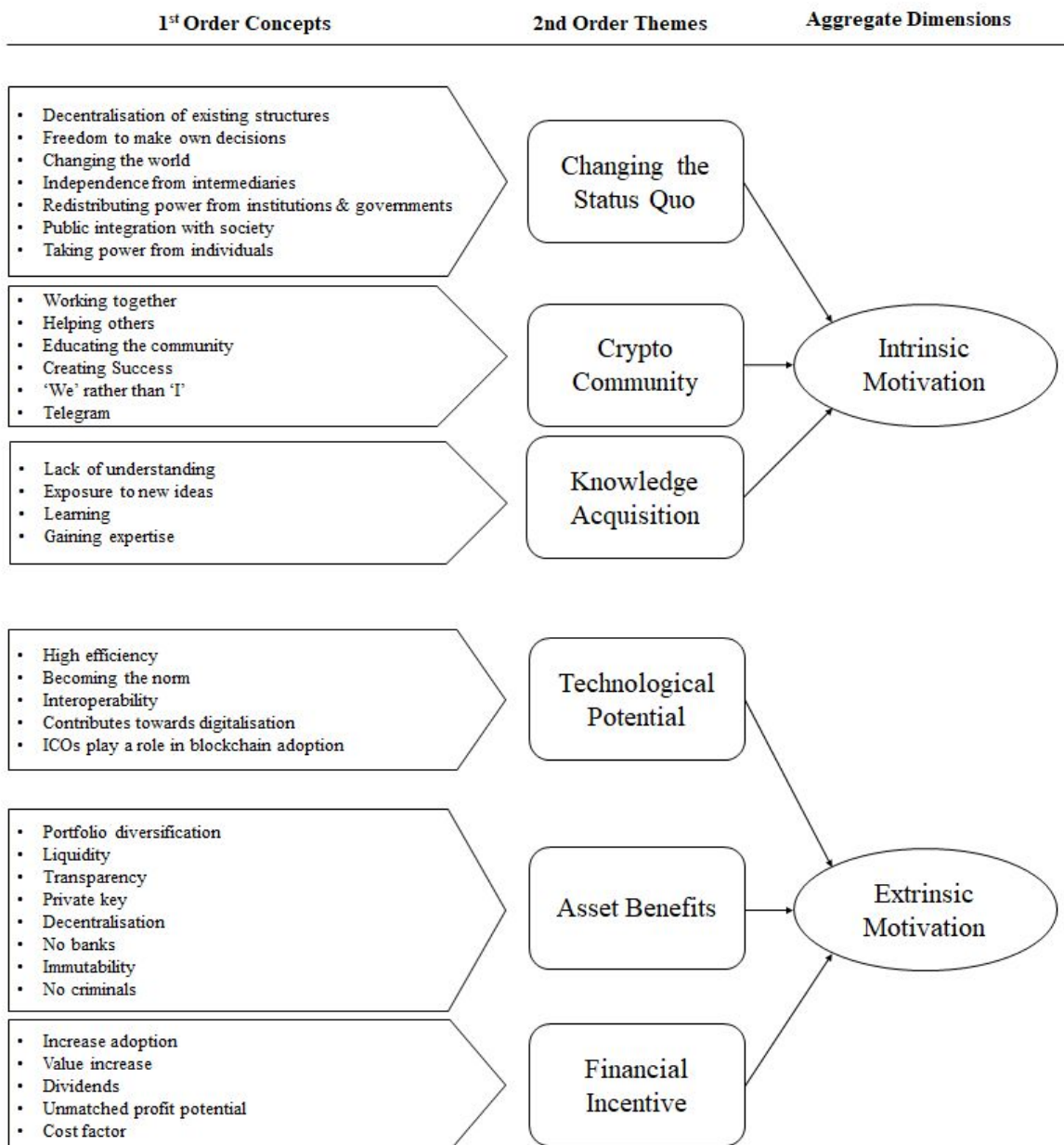
In addition, some concerns regarding ICOs as a new form of finance were mentioned. There exists a negative stigma surrounding ICOs, due to negative experiences from scams in 2017-2018. Thus, mainstream adoption towards ICOs experiences slow traction. In addition, regulations are emerging at the same rate, while development of such platforms is lackluster. These concerns are reflected in the data structure in the following section, which aims to depict the motivational nature of our interviewees.

4.1 Data Structure

To acquire a deeper understanding of the investor's decision making process, the following section introduces two contextual aggregate dimensions. In order to establish both a mutually exclusive and collectively exhaustive structure, the dimensions 'Extrinsic Motivation' and

“Intrinsic Motivation” were chosen. Intrinsic motivation summarizes the behaviors that are driven through internal satisfaction. Whereas, extrinsic motivation summarizes behaviors that are driven through external rewards. Investors seemed intrinsically and extrinsically motivated to invest into ICOs from the characteristics in the investment participation. The developed data structure is shown in Figure 1.

Figure 1. Data Structure



4.1.1 Intrinsic Motivation

The first 2nd order theme ‘**Changing the Status Quo**’ comprises the inner dissatisfaction of the investor with existing societal structures. The current system prevents the informants from making independent decisions. Due to the lack of autonomy, there is an inner emotional motivation to catalyze change, geared towards independence, and increased investor control, the freedom to make their own decisions. Several investors, with an emphasis on African and Asian regions, explained their discontent about the financial situation in their country through a lack of control through powerful banks:

“Why I should be controlled, where is the freedom in that? What it should be is: Anything that is belongs to you, it belongs to you. You have the full control over it. So, I want to reach a stage where people don't need any more the banks.”

“So, I have experienced myself corruption everywhere especially in my country Lebanon, it's not hundred percent corruption. It's 1 million percent corruption in Lebanon, and it's a terrorist militarized government.”

Therefore, decentralization of intermediaries, like banks through blockchain technology-based solutions, appeared to be a strong motivator to engage in new decentralized financing methods. The aforementioned centralization occurs on many levels of investment transactions. Dissatisfaction stems from the lack of financing options from jurisdictional limitations. ICOs promise to bypass these limitations.

“It's super interesting because security token offerings probably as you know it's applicable across various industries. There's no border of boundaries, it can be globally applied.”

In order to acquire such freedom, interviewees sought independence on several levels in their investments. One interviewee broke it down as follows:

“My vision is to create something totally independent from any organization, any bank, any government in the world.”

These intermediaries were presented during other interviews. One investor elaborated on ICO projects that contributed towards blockchain adoption in the government sector. The benefit was twofold. A decentralized means of finance contributed towards an effort into decentralized technological adoption within their country. Therefore, they were able to push forward their agenda for a more democratic world on several dimensions. One particular agenda concerns restructuring governmental structures:

“But this company is the company that helped implement and pushed the blockchain technology into the Georgian government, and is also helping in in other countries”

Then, on a second level, central banks and the fiat system were mentioned. The current central banking system exists in a few countries. These countries are mainly American and European countries that possess a lot of economic power as international trades are mainly executed through the use of the Dollar or the Euro. These trades strengthen the mentioned reserve currencies at the cost of other currencies, which cannot be used on global exchange platforms. Through another decentralized financial option, the power can be redistributed from these central banks.

“The government okay is pretty scared about the decentralize because the whole financial system as a state built will be ruined. So, I think it will be a big war.”

On a smaller level, another concern was brought to attention. Power is centralized with a small number of high net worth individuals, who can easily control corrupt governments and other institutions through briberies or large donations. These individuals, the so called “1%”, would have a harder time to control decentralized entities, compared to one entity or person in charge over a centralized institution.

“I want to destroy the current financial system, and fight against the 1% which is the people controlling the world and causing hunger, supporting war.”

Overall, the interviewees are motivated to use blockchain related solutions, even though the technology is emerging and lacking adoption. Nevertheless, the overall idea pushes toward being part of a greater change. As inequality arises as a big problem in many regards, interviewees pointed out the democratic aspects of blockchain: individual voices, individual decision making, and individual control over property. Therefore, improving the current state of the world towards a better place is a protruding motivation of many ICO-engaged investors. One interviewee explained:

“The idea is to change the world, and obviously on multiple different fronts I think that the world has lost its path on a lot of different issues; global warming, poverty, equal distribution of wealth.”

The second theme ‘**Crypto Community**’ comprises the investor's motivation to be connected to other likely minded people, who share similar values and opinions. As ICOs are built upon a niche and emerging blockchain technology, the interviewees are heavily involved in online social communities to exchange thoughts across the world. The crypto community appears to exhibit a strong bond between voluntary individuals in aid and support within the community. Interviewees explained how working together and helping other individuals or projects is a fulfilling motivator to engage in ICOs:

“People that are really building things out, and that are involved. They have an energy of kind of being open and working on something even though they're a part of different projects,

it kind of feels like we're all working on something together. So, the essence of community and camaraderie.”

“I always look for ideas and new opportunities to introduce to these companies to help them succeed.”

As ICO investors were heavily involved in the crypto community, many interviewees place great emphasis on the importance of growing this community. The positive experience of contributing to a bigger cause with many like-minded individuals together yielded in a strong passion towards increasing awareness in others. As one investor mentioned:

“99% of the students that I give a speech to, they have no clue what is Bitcoin and they start you know-- so we are trying here in Georgia to create awareness.”

Furthermore, investors provided value towards this community through several approaches. The community effort can be characterized through sharing information to everyone involved. This can take the form, ranging from providing quality information about current trends, projects, or technical information to educating others through their own knowledge and experiences. Investors have been observed to share fascinating information that they find or get recommended with. So, everyone is widely connected to each other in the social network, supporting the community as a whole in efforts to improve and to grow it.

“You know, we also write a lot of educational content.”

“I just hope that you know people try to learn more about the industry. I recommend people studying and researching the space.”

“I'm spending 24/7 space. I'm actually involved in some groups on telegram. Telegram is main channel for all crypto guys, crypto geeks, and those guys they talked the whole day about crypto projects.”

The last theme ‘**Knowledge Acquisition**’ comprises the motivation to expand one’s own horizons in education, gaining a deep understanding of the technological implications in connection with ICOs. In addition, exposure to various new concepts and their promised value further expands the investor’s intellect and investment competence. Since many investors initially did not have any understanding when entering this field of finance:

“ICOs were going through the roof so it seemed like you know maybe that there was something that I didn't understand that maybe that was worth investigating.”

Therefore, the exposure to new ideas and trains of thought stimulate the investor’s mind. Understanding the high technology venture innovations and the ideas, community members

bring forth challenging and motivating aspects of ICO involvement. Two investor said the following:

“The thing I enjoy the most about it is actually reading about the projects and seeing what ideas people are coming up how to apply block chain or a cryptocurrency.”

“Innovation motivates me, you know and finding new interesting companies that can really scale up.”

Therefore, exposure to these projects using emerging technologies provide a more satisfying and meaningful experience of knowledge acquisition. Involvement at the forefront of new and inspiring trends is a strong motivating factor. One investor, who compared ICOs to other means of finance, explained:

“I read a lot of new information and it was much more deeper learning than I had before.”

One interviewee explained the importance of specialization within a field, highlighting the comprehension of the complex and high-level implications of decentralized finance beyond a basic public perception.

I think read about five books, maybe some bad books before you understand what's the real difference between good and bad information. So, one of my idea first of all is to become some expert in this field.

4.1.2 Extrinsic Motivation

The first theme ‘**Technological Potential**’ comprises the improvements that ICOs can achieve through their technology, with regard to societal development. Blockchain technology provides the infrastructure for an improved method of exchange, driving innovation forward. For instance, traditional forms of finance become outperformed. These improvements draw upon several aspects of technological potential:

“What motivates me is that emerging technologies; Technologies, which have the potential to disrupt, especially some legacy systems, which is, block chain for example.”

“The potential of blockchain as a technology was what got me into the space!”

In addition, the blockchain technological potential, as a disruptor of finance systems, leads to a strong belief of blockchain normalization. As more ventures become aware of the value provisions of blockchain technology, the relevance will increase adoption rates. All interviewed investors were highly positive in their opinion about the improvements that blockchain technology provide, betting their invested capital toward the technological adoptions:

“Blockchain on a whole, I'm very positive about it. I think in a way, it's going to affect a lot of companies and it's going to come instrumental and then obviously using as a technology. But in five- or ten-years time it will be a backbone of a lot of technologies.”

With regards to the technological value proposition, one investor drew upon the efficiency improvements. Automation of processes not only makes transactions faster, but also eliminates the necessity of a trust-providing intermediary. Through the smart contract mechanism provided, trust is established in a digital contract.

“If you have a token, one transaction on the block train, and smart contracts automatically distributes the dividends across automated across all the investors accordingly to their total holdings. So, all of those efficiency improvements will become mainstream at some point.”

Furthermore, interoperability of different exchanges, the ability to trade tokens between different blockchain protocols across different locations within a matter of seconds, is an intriguing promise of the technology. Interoperability of blockchains has yet to be achieved, nor has single protocol dominance achieved mainstream adoption for STOs. The promise of interoperability suggests a strong argument for investors to participate in the ICO industry.

“I think that is a usage of blockchain technology on the backend of being able to interconnect all of these different items. So, blockchain basically being able to have interoperability.”

This development furthers through the current situation of a global pandemic. The shift towards a more digitalized society results in a more rapid adoption of new technologies. Companies are forced to adapt to new digital ways to communicate and improve technological awareness.

“The block chain in future could be useful in Internet technologies. You know that the internet technologists especially in our situation when we had Corona Virus attack, it becomes more popular to get your business online. So, a lot of companies, I know some big companies Russian Europe which began to digitalize their business.”

Lastly, STO involvement particularly helps increase adoption towards this new technology. As one investor said:

“I would do an STO only because that I believe in that market and I think that this could be one of the shining stars that would really stand out in that market, that would help more mass adoption.”

The second theme ‘**Asset Benefits**’ comprises the token (Crypto Asset) dependent value propositions, which provide distinct advantages in comparison to other forms of financial assets, as the exchange of tokens is an innovative form of trade. Several token aspects contribute towards ICOs as a secure environment to perform investment operations. For instance, small investment allowance of capital supports portfolio diversification, protruding as a motivator in ICO engagement:

“And you know it's just so fascinating because again it's across regions, and I have access to a huge different portfolio of potential investment opportunities, emerging technologies from various countries.”

Furthermore, in comparison to the public stock exchange, which is only available throughout a predefined time of the day, tokens do not exert such policy limits on investor activities. Thus, when an emergency comes up and currency is needed, tokens can be instantly liquidated for cryptocurrency by the investor.

“What that's going to do is take illiquid investments and make them liquid 24/7, 365 days of the year. Because that's how these tokenize assets work and how these exchanges work.”

On the other hand, the liquidity promise is twofold. Although the market is accessible, investors are not always able to instantly sell their tokens in the emerging markets. However, there is a strong belief in future mainstream adoption.

“The main concern of most investors because the liquidity is not really there yet because the overall token space is still very young.”

In addition, the underlying blockchain technology offers transparency. Thus, every transaction is fully comprehensible; the flow of digital currency (eg. BTC & ETH) and digital assets (Utility Tokens & Security Tokens) can be easily tracked by the recording ledger.

“I think that blockchain is going to do for~ what the internet did for information, blockchain is going to do for money and which is going to be making it completely transparent.”

Furthermore, individuals with malicious intent, such as criminals, cannot target a centralized banking entity, as the ICO environment is built upon decentralized infrastructure-- referred to as decentralized finance.

“The STO, the idea would be if we're going to trade on an exchange, I would prefer to trade on an exchange where that we were free from the criminal activity!”

“And that you know that the people that have been running all these large banks, doing all these horrible things lying cheating stealing and then reporting complete lies to the new, they're going to be disrupted in a significant way.”

Another point is the immutability of records. No party can change transaction information without the network's awareness. One investor, who experienced corruption with other forms of finance, mentions:

“It's safer, it's faster, it's 100 percent transparent they have an immutable ledger so that nobody can go back and cook the books.”

Furthermore, the option to have your own private key, which provides the owner exclusive access to their token, is an additional layer of safety. This is particularly important as banks

have the possibility to deny or limit access to financial resources in the owner's financial activity. In comparison, tokens are not affected by these restrictions as external parties, without access to the private key, can obtain control over your personal token wallet.

“If you own the private key, you own it. Nobody can take it unless you lose your freaking private key ”

“ You will see that the banks have stolen the money of the people, you don't have anymore access to your money in the bank you lost it. ”

But, as ICOs are more shifting towards the regulated STO preference, central entities like governments maintain a strong influence in the development of blockchain-based finance. This aspect needs to be considered in regards to security aspects.

“I mean you have to understand that the large banks, the large investment banks basically own the regulatory bodies. So, anything that threatens their interests, they make one phone call to the security Exchange Commission here in the United States, and you'll see non-stop prosecution of whatever interests that are threatening them.”

The last theme ‘**Financial incentive**’ draws upon the overarching goal to gain financial profits from one's investment. As we interviewed investors, their initial motivation to engage in the industry was to acquire high financial returns. One investor mentioned how his motivation to support the company is in line with their financial incentive, as it increases the value of the company:

“One is financial gains and also two is to support that company because if my investment, they will actually do something and because I believe the project is very good so it makes sense. It is like kind of win-win, right?”

With regard to value increase, ICOs offer a large value increase of tokens, which result in profitable financial returns. In comparison to other forms of finance, the possible profit is considerably higher. This financial opportunity is a strong motivator to invest:

“So, if this project will go to one dollar, I made 15 thousand dollars from \$600. Tell me where on the stock market or private equity market you can do the same return for such shallow investment.”

It is not only the potential profit that motivated our interviewees. In addition, token investments are less costly than stock investments or other financial assets, due to lack of non-intermediary involvement from blockchain technology.

“I think ultimately what we will see is all securities move on to a security token offering or digital security. Because it's just faster, cheaper, better, safer for all those reasons and like most industries.”

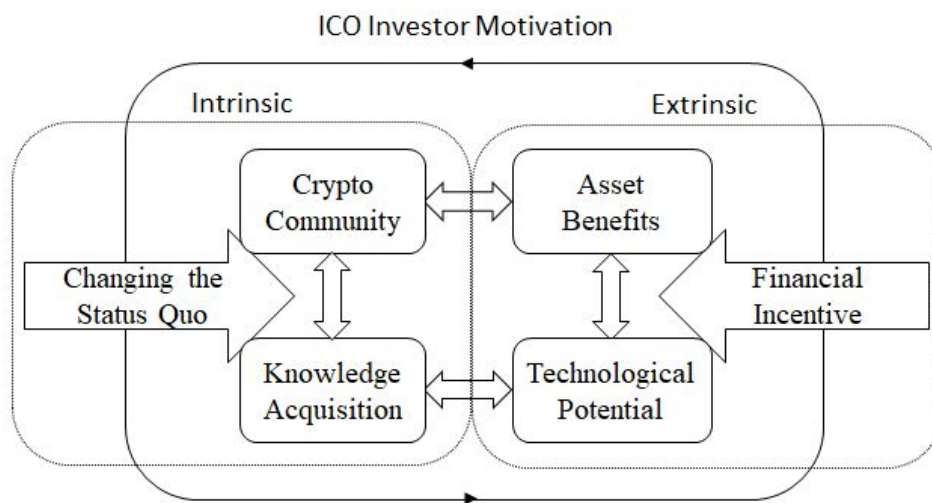
In addition to high financial returns, STOs offer the possibility to gain predictable financial returns through automated dividends from their portfolio companies.

“Now I am just waiting till the end of this year to receive hopefully some dividends from this company.”

5. Discussion

The analysis chapter introduces a model of dynamic relationships to describe the motivational nature of the ICO investor. This study explains how the different extrinsic and intrinsic motivations introduced in the previous chapter interact with each other; in addition, the study relates findings to the aforementioned theoretical framework. In other words, we transform the static data structure into a dynamic model grounded in theory (Gioia, Corley and Hamilton, 2013). The developed model is shown in Figure 2. First, we will first discuss motivational intra-relationships and then discuss motivational inter-relationships.

Figure 2. Conceptual model: Inter-related ICO investor motivations



5.1 Motivational Intra-relationships

There are two protruding motivations to participate in ICOs. First, some investors seemed intrinsically motivated to change the current status quo of systems that are controlled by central banking entities. Second, an extrinsic reason to participate in ICOs was to acquire financial returns.

5.1.1 Intrinsic Motivation

Changing the status quo is defined as a change of current state of affairs, regarding issues of social and political nature. This aligns with research conducted by Fisch, Masiak and Vismara (2019), who argue that intrinsically motivated investors aim to disrupt deeply rooted ideological structures. Our research demonstrates that this motivation mainly stems from individuals living in countries with distrusted governmental structures and with less stable banks. The experience of denial of access to their owned assets encourages this mentality. Whereas, investors from countries in Europe and America are less intrinsically motivated to participate in ICOs, as banking entities do not exhibit such flaws. Furthermore, this finding contrasts with the study from Katzenmeier *et al.* (2019), who shows low support for the

motivation of exercising a political statement in crowdfunding forms that promise financial returns. But it is a protruding motivation in donation based crowdfunding, which does not provide rewards. In donation based crowdfunding, the motivation of making a political statement comes at the cost of financial reward. In ICOs, the disruptive nature of bypassing banks and disrupting the industry is a political statement in itself; one stands by one's own intrinsic beliefs, whilst one stands by the possibility of financial returns. This is crucial as investors from non-western countries exhibit distrust in the political situation in their country, which is a main incentive to invest in ICOs; they are encouraged to use this less centralized form of finance. So, these crowdfund motivations differ, as centralized banking entities are used in the financial exchange. These differences are especially apparent, where banks and governments are strongly connected through the central banking system. Furthermore, the initial catalyst of changing the status quo grants exposure to an active cryptocurrency community, who constantly exchanges information and knowledge.

The engagement in the cryptocurrency community exposes investors towards like-minded members with similar values. In addition, through platforms, such as Reddit or Telegram, the investors receive access to a constant exchange of knowledge and innovative ideas. Through the engagement with this community, which is not exhibited from communities in other forms of finance, the investors were highly motivated by the idea of understanding the technology and specializing in the field. Thus, smaller communities within the crypto-community are built around specific ICO projects; this phenomenon exhibits comparable behavior through intrinsically motivated crowdfunders, who are driven through the campaign cause or are relating to the entrepreneurs (Allison *et al.*, 2015). The community aspect within ICO finance is vastly influential; In comparison to crowdfunding project communities, a vast majority of individuals connect with each other through the possibilities of the underlying blockchain technology, in addition to specific projects. Individuals, engaging in the community, are exposed to their forum discussions; they contribute back through sharing their own opinions. Furthermore, Fisch, Masiak, and Vismara (2019) highlight that enthusiasm for the technology is a strong intrinsic motivator for ICO investors. Although their findings do not highlight intra-relationships between the common goal of disruption in the blockchain community, this interplay of intrinsic motivations are of particular importance. The investor motivations exhibit strong similarities with the three innate psychological needs of SDT (competence, relatedness and autonomy); when these needs are met, the individual experiences enhanced self-motivation and well-being (Ryan and Deci, 2000).

Drawing on SDT (Ryan and Deci, 2000), the strong focus of a community, rather than individual investment opportunities, around the underlying technology and its implications may explain the intrinsically motivated nature of the ICO investor. This is of great importance as investors of other forms of finance are mainly financially motivated (Gerber and Hui, 2013; Estrin, Gozman and Khavul, 2018; Pierrakis, 2019). The explanation of this intrinsically motivated nature of the ICO investor stems from the fact that all three innate needs of SDT are satisfied. As mentioned, the initial driver to engage in ICOs was the aspect

of challenging the status quo, as existing structures in certain sovereignties heavily prevent complete ownership over assets and other financial assets. This lack of autonomy encourages the ICO, which is built on a decentralized infrastructure to promise more control within a democratic infrastructure. Since a lack of autonomy can result in alienation (Ryan and Deci, 2000), ICOs offer a path to escape the resulting ill-being. In addition, investors relate to others through the crypto-community aspect, enabling social connection with like-minded people online. These social connections lead to relevant problem discussions and proliferation of educational investor insights. The community aspect becomes even stronger in unrestricted groups and channels, given that most individual community members communicate through Telegram-- a secure ICO-funded messaging platform (Henni, 2020). As the discussions are often about advanced technology, investors need to understand challenging concepts and acquire competence in the field. Thus, the satisfaction of motivations, such as autonomy, competence, and relatedness, through ICO engagements may be the reason for the strong intrinsic investor motivations, which is not present in other forms of finance.

5.1.2 Extrinsic Motivation

The second major motivation for ICO investments is the investor's financial incentive. Aligned with our investor definitions, every ICO investor invests with the intention of a future profit. However, the financial incentive is twofold. For one, ICO investments promise greater returns than other forms of finance, as the potential of blockchain technology-based ventures can substitute whole industries. The ICO investor motivation of financial incentives aligns with findings in crowdfunding finance, which supports the claim for strong support of financial motivations (Estrin, Gozman and Khavul, 2018). For instance, Pierrakis (2019) demonstrates support for the extrinsic motivation of crowdfunders, in receiving interest through debt-based crowdfunding. In comparison, the ICO investors, who invested into asset-backed security tokens, are promised increased future pay-outs through equity tokens. The differentiating factor between lending on crowdfunding platforms and investing on ICO platforms is the nature of the underlying blockchain technology; information is processed in an automated system and is transparent for public records. Thus, the intermediary crowdfunding platform is bypassed through a decentralized blockchain ledger. Furthermore, the intermediary crowdfunding platform is bypassed by automation and without intermediation costs, through the decentralized aspect of blockchain-based finance solutions, such as the ICO. Therefore, the financial incentive is strongly related with the other two factors introduced in our model: the technological potential and the specific asset benefits of ICO tokens themselves.

Simultaneously, the asset benefits are a disruptive threat to current forms of finance in addition to the extrinsic motivational factors in ICO engagements. The asset benefits of tokens, which are exchanged for cryptocurrency during the ICO transaction, exhibit similarities to current forms of crowdfunding platforms. Paravisini, Rappoport, and Ravina, (2010) demonstrate that crowdfunders are extrinsically motivated by the possibility to easily diversify their portfolio through micro-investments; aligned with this finding, we find that

ICO investors exhibit a behavior of diversification through the ability to invest small amounts of capital in various campaigns. In contrast to crowdfunding finance, the investor can sell their token on the blockchain and liquidate at any time, upon token ownership. This liquidity promise does not exist in current financing options, as these rely on traditional exit strategies, such as IPOs, which act as a proponent for the blockchain preference over other financing options. Furthermore, it explains the relations between the asset benefits of tokens, strongly related with the technological potential. Since the possibility of token specific value propositions, such as increased liquidity and full transparency, promise great technological potential and societal advancement.

However, Fisch, Masiak, and Vismara (2019) interpret the technological factor as an intrinsic investor motive. The argument is in support of the decentralized autonomy technological promise that we previously discussed. But instant transactions, interoperable blockchain protocols, and the societal shifts towards mainstream blockchain adoption are strong extrinsic motivators to engage in blockchain-based ICOs. In addition, as mainstream adoption develops, the liquidity and immutability benefits that tokens provide is predicted to be improved. Becoming a pioneer in the industry is, therefore, of extrinsic nature, due to the possibility of presence in a rising industrial trend for early financial opportunities with the blockchain movement.

5.2 Extrinsic & Intrinsic Inter-relationships

As we see in the previous section, the differentiation between extrinsic and intrinsic motivation of the different introduced factors is not an easy discussion. The introduced model does not only explain extrinsic and intrinsic intra-relationships, it also introduces their inter-relationships. This section elaborates on the inter-relationships of extrinsic and intrinsic ICO investor motivations.

First, we show that investors possess either a protruding intrinsic or extrinsic motivation in their ICO investments. The Financial Incentive to gain future profit and the motivation to Change the Status Quo of asset ownership are not as straightforward as they may seem. Fisch, Masiak, and Vismara (2019) demonstrate support for both the intrinsically and the extrinsically motivated investors; however, their research suggests preference for the intrinsically motivated investor. The studies, introduced in the theoretical framework, on crowdfunding finance argue for a mainly extrinsically motivated crowdfunder (Gerber and Hui, 2013; Estrin, Gozman and Khavul, 2018; Katzenmeier *et al.*, 2019). Yet, findings indicate that these motivations are heavily inter-related in the context of the ICO investor. For one, the ICO investor, who is intrinsically motivated by autonomy, will have the opportunity to enjoy more autonomy through increased financial investment opportunities from the returned profit that is available through the investment returns. In other words, the financial independence that results from large sums of profit in successful disruptions of existing industries goes hand in hand with the intrinsic motivation of control through bypassing control-limiting intermediaries, such as banks; as financial freedom implicates freedom of choice, especially when banking intermediaries can restrict access to the financial assets. A

reasoning for this close interaction may be the fact that the ventures that perform ICOs oftentimes leverage blockchain technology in their operations, as they are high-tech ventures with higher educational thresholds (Fisch, 2019). Thus, the reasons --autonomy and financial gain-- to engage in the ICOs as a form to finance ventures, regard blockchain technology as a driver.

Second, the intrinsic factor Knowledge Acquisition and the extrinsic factor Technological Potential are not easily differentiated, as they also exhibit signs of inter-relationship. In line with SDT, knowledge acquisition results in becoming more familiar with the industry (Ryan and Deci, 2000). The resulting expertise and competence enables improved understanding of different value promises of ICO performing ventures. Thus, a strongly intrinsically motivated investor will become increasingly adept at investment evaluations. A strong financially motivated investor has to familiarize themselves with the technology in efforts to identify winning deals, provided that promising investments release insightful whitepapers of the technological nature (Fisch, 2019). Therefore, the engagement in ICOs will simultaneously satisfy both the intrinsic motivation to acquire knowledge and the extrinsic motivation to use the efficiency promises of blockchain technology.

Third, the intrinsic factor Crypto Community and the extrinsic factor Asset Benefits stand in relation to each other. On the one hand, the supportive nature of the crypto community introduced through voluntary collaboration enables a strong connection with others, satisfying the intrinsic need for relatedness from community affiliation (DeCharms, 1968). On the other hand, this community effort enables the asset benefits of ICO tokens, such as decentralization and the resulting intermediary bypassing, which satisfy extrinsic investor motivations. Without the community, there is no possibility of a decentralized solution. Furthermore, ICO engagement in a mainly extrinsic asset-oriented motivation is tied together with community affiliation. This initial relationship may not be a direct cause of the interaction on blockchain-related platforms, but it is rare to make use of the asset promises without engaging with the crypto community to a certain extent.

6. Conclusion

The aim of this study was to extend our knowledge about ICO investor motivations and understand how these motivations relate with each other. Since literature about ICO investor motivations is still fairly nascent (Fisch, Masiak and Vismara, 2019), we extended the theoretical framework with existing knowledge of various forms of crowdfunding motivations due to the convincing similarities of the two forms of venture finance. To analyze this nascent topic, a Gioia method approach was implemented in this study (Gioia, Corley and Hamilton, 2013). Therefore, we performed a series of semi-structured interviews; subsequently, we coded and analyzed the data into a comprehensible data structure. After reviewing the initial dataset, two informants, who provided particularly quality rich insights were backtracked for follow-up interviews. Thereby, specific inter-relationships and intra-relationships could be refined to then further develop the acquired data into a grounded theory model of motivational relationships.

Analysis of the data enabled us to establish distinct results for both research questions. First, this study extends our knowledge about ICO investor motivations. In contrast to findings in crowdfunding motivations, ICO investors exhibit strong intrinsically motivated incentives in engaged ICO investments, in addition to the received extrinsically motivated financial rewards. These findings are aligned with the interpretation of Fisch, Masiak, and Vismara (2019). However, the motivation is heavily dependent on investor specific experiences in their respective country's jurisdiction, with regards to their financial assets and asset autonomy. These results indicate that the blockchain specific asset benefits provide a strong motivational driver to invest in ICOs. The use of cryptocurrencies, which are transparently stored on a public blockchain and free of centralized control, enables an autonomous possibility to invest into ventures without limited access to ownership of their collected assets. Thus, the need for control is greater for investors from countries that exercise financial restrictions, which enhances the individual's intrinsic need for autonomy. Moreover, the interplay of competence, autonomy, and relatedness, enabled through the innovative blockchain technology, provides a strong argument for strong intrinsic motivations among investor behavior. In addition, its highly democratized characteristic and active communal characteristic may be additional reasons for the strong intrinsic motivation of ICO investors, in comparison to investors of other forms of finance.

Regarding the second research question, we depicted the gained insights into a dynamic model of relationships between different motivations. We demonstrate that ICO investor motivations are not as apparent as one may think. Blockchain technology, in particular, provides incentives to engage in ICOs satisfying both, intrinsic and extrinsic motivations. Thus, it is not possible to pinpoint specific motivations in a static manner as the technology, which is different in comparison to conventional forms of venture finance, leaves great room for interpretation of the motivational nature of the ICO investor. The developed model is an initial attempt to depict this phenomenon in a comprehensible manner. Overall, we are able to

demonstrate that specific intrinsic and extrinsic motivations are not only intra-related, but also inter-related.

6.1 Limitations

The presented study is not conducted without limitations. First, there are limitations in the methodological approach. The chosen approach of a qualitative study allows small room for generalization, as there is only a small number of individuals investigated to answer the research questions (Bryman and Bell, 2011). In addition, we interviewed a heterogeneous set of investors, regarding their investment size. During our interviews, we observed that location of the investor plays a crucial role in their response for motivations. Even though our study represents geographical heterogeneity to some extent, we only covered a small number of countries; findings on motivations may be different in other markets or countries outside our sample set.

Second, our study was performed during a global pandemic through the coronavirus. This pandemic resulted in strong economical and financial changes across the world, which may have influenced the motivations of individuals to engage in ICOs as a form of venture finance. For instance, the increase of money printing by central banks and the fear of inflated wealth might have been catalysts to engage in a decentralized investment option and to use deflationary digital currencies, such as Bitcoin. Once the crisis calms, motivations might be different, depending on the trust towards central banks and government regulators. Furthermore, the ICO industry is underdeveloped. Thus, the interviewees can be considered as early adopters, who are particularly passionate about the technology. We acknowledge that two factors may limit the application in our study: evolving structures and mainstream adoption. These two factors may attract different investor profiles, which can influence motivations to invest. However, the results of the study add towards the understanding of ICO investor motivations, offering crucial insights and implications for future research in the community.

6.2 Implications and Future Research

This study offers valuable implications of practical relevance for investors, ventures, and regulators. With regards to the intrinsic investor motivations, we show that the aspects of autonomy and community in blockchain are motivators to engage in ICOs. Thus, ICO performing ventures can leverage the gained insights in developing marketing strategies to satisfy both the aforementioned intrinsic motivations and extrinsic oriented motivations. ICO performing ventures, who are able to signal information, can convince a more heterogeneous group of investors, resulting in increased funding. In addition, investors can use the provided insights in their investment process by considering the provided variables in their decision making to evaluate the behavior of other investors, with regards to their motivations to invest. Furthermore, as ICOs are still in an emerging state and regulations are under development (Nascimento, 2019) governments can use the provided insights about ICO investors to consider their perspectives when performing regulations, as finding the right balance of

regulation to provide certainty stands in conflict with blockchain-related values, such as anonymity, transparency and decentralization.

In addition, this study lays the foundation for further research in the field of ICO investor motivations. For instance, there are similarities between ICOs and crowdfunding through the development of regulations and a shift towards STOs. Future research to investigate ICO investors under the lens of established knowledge in the field of venture capital may further extend our knowledge. The heterogeneity of ICO investors promises new avenues for future research with regards to geographic-dependent investor motivations. For instance, a quantitative study could target a large sample of ICO investors from all over the world and could analyze the significance of location on ICO investor motivations. Furthermore, this study used a very general approach to investigate investors in both STO and UTO investments. Motivations to invest in these two forms of ICOs might differ.

References

- Adhami, S., Giudici, G., & Martinazzi, S. (2018). Why do businesses go crypto? An empirical analysis of initial coin offerings. *Journal of Economics and Business*, 100, 64-75.
- Albrecht, S., Lutz, B., & Neumann, D. (2019). How Sentiment Impacts the Success of Blockchain Startups-An Analysis of Social Media Data and Initial Coin Offerings. In *HICSS* (pp. 1-10).
- Allison, T. H., Davis, B. C., Short, J. C., & Webb, J. W. (2015). Crowdfunding in a prosocial microlending environment: Examining the role of intrinsic versus extrinsic cues. *Entrepreneurship Theory and Practice*, 39(1), 53-73.
- An, J., Duan, T., Hou, W., & Xu, X. (2019). Initial coin offerings and entrepreneurial finance: the role of founders' characteristics. *The Journal of Alternative Investments*, 21(4), 26-40.
- Ante, L., & Fiedler, I. (2019). Cheap signals in security token offerings.
- Ante, L., Sandner, P., & Fiedler, I. (2018). Blockchain-based ICOs: Pure hype or the dawn of a new era of startup financing?. *Journal of Risk and Financial Management*, 11(4), 80.
- Bansal, P., & Roth, K. (2000). Why companies go green: A model of ecological responsiveness. *Academy of management journal*, 43(4), 717-736.
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: desire for interpersonal attachments as a fundamental human motivation. *Psychological bulletin*, 117(3), 497.
- Belleflamme, P., Lambert, T., & Schwienbacher, A. (2014). Crowdfunding: Tapping the right crowd. *Journal of business venturing*, 29(5), 585-609.
- Boreiko, D., & Sahdev, N. K. (2018). To ICO or not to ICO—empirical analysis of initial coin offerings and token sales. *Available at SSRN 3209180*.
- Brennan, C., & Lunn, W. (2016). Blockchain: the trust disrupter. *Credit Suisse Securities (Europe) Ltd.: London, UK*.
- Bretschneider, U., & Leimeister, J. M. (2017). Not just an ego-trip: Exploring backers' motivation for funding in incentive-based crowdfunding. *The Journal of Strategic Information Systems*, 26(4), 246-260.
- Bryman, A. & Bell, E. (2013) *Business Research Methods*. Oxford University Press, Oxford. Upplaga 4.

- Buterin, V. (2014). A next-generation smart contract and decentralized application platform. *white paper*, 3(37).
- Cholakova, M., & Clarysse, B. (2015). Does the possibility to make equity investments in crowdfunding projects crowd out reward-based investments?. *Entrepreneurship Theory and Practice*, 39(1), 145-172.
- Cohney, S., Hoffman, D., Sklaroff, J., & Wishnick, D. (2019). Coin-operated capitalism. *Columbia Law Review*, 119(3), 591-676.
- De Buysere, K., Gajda, O., Kleverlaan, R., Marom, D., & Klaes, M. (2012). A framework for European crowdfunding.
- DeCharms, R., & Cauzation, R. P. (1968). The internal affective determinants of behavior.
- Dell'Erba, M. (2019). STABLECOINS IN CRYPTOECONOMICS: FROM INITIAL COIN OFFERINGS TO CENTRAL BANK DIGITAL CURRENCIES. *New York University Journal of Legislation & Public Policy*, 22(1).
- Di Pietro, F. (2020). *Crowdfunding for Entrepreneurs: Developing Strategic Advantage through Entrepreneurial Finance*. Routledge.
- Domingo, R. S., Piñeiro-Chousa, J., & López-Cabarcos, M. Á. (2020). What factors drive returns on initial coin offerings?. *Technological Forecasting and Social Change*, 153, 119915.
- Drasch, B. J., Fridgen, G., Manner-Romberg, T., Nolting, F. M., & Radszuwill, S. (2020). The token's secret: the two-faced financial incentive of the token economy. *Electronic Markets*, 1-11.
- Ehrsam, F. (2016). How to Raise Money on a Blockchain with a Token. URL: <https://blog.gdax.com/howto-raise-money-on-a-blockchain-with-a-token-510562c9cdfa>.
- Estrin, S., Gozman, D., & Khavul, S. (2018). The evolution and adoption of equity crowdfunding: entrepreneur and investor entry into a new market. *Small Business Economics*, 51(2), 425-439.
- Fisch, C. (2019). Initial coin offerings (ICOs) to finance new ventures. *Journal of Business Venturing*, 34(1), 1-22.
- Fisch, C., Masiak, C., Vismara, S., & Block, J. (2019). Motives and profiles of ICO investors. *Journal of Business Research*.

- Fisk, R. P., Patrício, L., Ordanini, A., Miceli, L., Pizzetti, M., & Parasuraman, A. (2011). Crowd-funding: transforming customers into investors through innovative service platforms. *Journal of service management*.
- Fridgen, G., Regner, F., Schweizer, A., & Urbach, N. (2018). DON'T SLIP ON THE ICO—A TAXONOMY FOR A BLOCKCHAIN-ENABLED FORM OF CROWDFUNDING.
- Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational behavior*, 26(4), 331-362.
- Gerber, E. M., & Hui, J. (2013). Crowdfunding: Motivations and deterrents for participation. *ACM Transactions on Computer-Human Interaction (TOCHI)*, 20(6), 1-32.
- Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2013). Seeking qualitative rigor in inductive research: Notes on the Gioia methodology. *Organizational research methods*, 16(1), 15-31.
- Grolnick, W. S., & Ryan, R. M. (1987). Autonomy in children's learning: An experimental and individual difference investigation. *Journal of personality and social psychology*, 52(5), 890.
- Hemer, J. (2011). *A snapshot on crowdfunding* (No. R2/2011). Arbeitspapiere Unternehmen und Region.
- Henni A., (2020). Will Telegram Ever Launch Planned \$1.7Bln Blockchain Project? URL: <https://www.themoscowtimes.com/2020/05/08/will-telegram-ever-launch-its-ton-blockchain-platform-a70221>
- Holtmeier, M., & Sandner, P. (2019). The impact of crypto currencies on developing countries.
- Huang, W., Meoli, M., & Vismara, S. (2019). The geography of initial coin offerings. *Small Business Economics*, 1-26.
- Huang, W., Meoli, M., & Vismara, S. (2019). The geography of initial coin offerings. *Small Business Economics*, 1-26.
- Katzenmeier, S., Bendig, D., Strese, S., & Brettel, M. (2019). The supply side: profiling crowdfunders. In *Handbook of Research on Crowdfunding*. Edward Elgar Publishing.
- Landström, H. (2017). *Advanced introduction to entrepreneurial finance*. Edward Elgar Publishing.
- LeCompte, M. D., & Goetz, J. P. (1982). Problems of reliability and validity in ethnographic research. *Review of educational research*, 52(1), 31-60.

- Lin, T. C. (2015). Reasonable investor (s). *BUL Rev.*, 95, 461.
- Lukkarinen, A., Teich, J. E., Wallenius, H., & Wallenius, J. (2016). Success drivers of online equity crowdfunding campaigns. *Decision Support Systems*, 87, 26-38.
- Lukkarinen, A., Wallenius, J., & Seppälä, T. (2019). Investor motivations and decision criteria in equity crowdfunding. *Available at SSRN 3263434*.
- Magas, J., 2018. Top Ethereum token protocols which may replace ERC20. *URL: <https://cointelegraph.com/news/top-ethereum-token-protocols-which-may-replace-erc20>*.
- Mollick, E. (2014). The dynamics of crowdfunding: An exploratory study. *Journal of business venturing*, 29(1), 1-16.
- Momtaz, P. P. (2018) 'Initial Coin Offerings', *SSRN Electronic Journal*, (January 2018).
- Morrisette, S. G. (2007). A profile of angel investors. *The Journal of Private Equity*, 10(3), 52-66.
- Nascimento A. (2019) *The STO Financial Revolution: How Security Tokens Change Businesses Forever - 2nd Edition*. Amazon Media.
- Pettigrew, A. M.,(1985), Contextualist research: a natural way to link theory and practice. *Doing Research that is Useful in Theory and Practice*. San Francisco: Jossey-Bass, 222-249.
- Pierrakis, Y. (2019). Peer-to-peer lending to businesses: Investors' characteristics, investment criteria and motivation. *The International Journal of Entrepreneurship and Innovation*, 20(4), 239-251.
- Pilkington, M. (2016). Blockchain technology: principles and applications. In *Research handbook on digital transformations*. Edward Elgar Publishing.
- Rappoport, V., Ravina, E., & Paravisini, D. (2010). Risk Aversion and Wealth: Evidence from Person-to-Person Lending Portfolios. In *2010 Meeting Papers* (No. 664). Society for Economic Dynamics.
- Ryan, R. M. (1982). Control and information in the intrapersonal sphere: An extension of cognitive evaluation theory. *Journal of personality and social psychology*, 43(3), 450.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American psychologist*, 55(1), 68.
- Ryu, S., & Kim, Y. G. (2016). A typology of crowdfunding sponsors: Birds of a feather flock together?. *Electronic Commerce Research and Applications*, 16, 43-54.

Sameeh, T., (2018). ICO basics – security tokens vs. utility tokens. *URL: <https://www.cointelligence.com/content/ico-basics-security-tokens-vs-utility-tokens>*.

Satis Group (2017) Study on ICO scams in 2017. *URL: <https://www.coindesk.com/report-more-than-three-quarters-of-icos-in-2017-were-scams>*

Schwienbacher, A., & Larralde, B. (2012). Alternative types of entrepreneurial finance. In *The Oxford Handbook of Entrepreneurial Finance*.

Strauss, A., & Corbin, J. (1998). *Basics of qualitative research techniques*. Thousand Oaks, CA: Sage publications.

Swan, M. (2015). *Blockchain: Blueprint for a new economy*. " O'Reilly Media, Inc."

Wiśniewska, A. (2018). The Initial Coin Offering—Challenges And Opportunities. *Copernican Journal of Finance & Accounting*, 7(2), 99-110.

Appendix A

Semi-Structured Interview Guide

Theme	Main Question	Sub Questions / Subtopics
Background Information	Who are you?	<ol style="list-style-type: none"> 1. Tell us about yourself as a person. 2. Tell us about your previous work experiences. 3. What motivates you? Any future goals? 4. Describe yourself as an investor. 5. Describe your industry experience (blockchain) 6. Describe your technical knowledge
Decision Criteria	Can you walk us through a recent STO/UTO investment?	<p>STO UTO</p> <ol style="list-style-type: none"> 1. Describe your STO/UTO selection process. 2. How did you search/find the STO/UTO? 3. Describe how you evaluate the STO/UTO. 4. Describe how much you invested and how it came to this number 5. Describe your role in the venture after the investment.
Challenges	Did you have any problems during your investment process?	<ol style="list-style-type: none"> 1. Describe any bad experiences with this ICO. 2. Describe the challenges regarding this ICO? 3. How does trust affect your decision-making process and how do you acquire trust towards the venture? 4. How does the high volatility in the crypto market affect your investments? Any counter measures?
Motivations	Why do you invest into ICOs?	<ol style="list-style-type: none"> 1. What do you enjoy about ICOs? 2. What is your opinion on Blockchain technology? 3. How did you get into ICOs?

		<p>4. Describe your activity in the ICO/Crypto community?</p> <p>5. Describe in which ways you use tokens?</p>
End	Any Feedback?	1. Proposed questions we should ask?

Appendix B

Big thanks to all Contributors

Danny Christ	http://www.moonwhale.io/
Antoun Toubia	United Capital Investments
Early Boykins	https://www.andracapital.com
Dennis O'Neill	BioMediCan
Aleksey Pogorely	Lybrion
William Cartmell	Blockchain & AI
Alex Nascimento	Blockchain at UCLA
Francois Poupard	ICO Triangle
Borys Pikalov	Stobox
Joakim Winborg	Lund University
Sotaro Shibayama	Lund University
Kalyan Pasumarthy	Lund University
Every Seminar Participant	Lund University