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Uncovering potential barriers of using initial coin offerings to finance artistic projects

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Abstract

Artists make vital contributions to our society and lay the foundations for billion-dollar industries. However, these artists consistently struggle to acquire sufficient funding for their projects and their livelihood. New technology-supported possibilities for funding artists and their projects have emerged in recent years. Initial Coin Offering (ICO) is a novel form of reward-based tokenized crowdfunding. Although ICOs are promising as a way to fund artistic projects, they lack widespread adoption in the creative and cultural industry (CCI). Based on 35 qualitative in-depth interviews, we identify four barriers that hinder the funding of artistic projects through ICOs: legal shortcomings, investment restrictions, lack of consumer interest, and intermediaries' resistance. Our research contributes to cultural finance and funding literature by disclosing barriers that impede a promising form of financing artistic projects. Further, we outline possible solutions to overcome them. We also contribute to the research about ICOs by showing that rather than reducing investment risks, these offerings merely shift them.

Keywords Initial coin offerings · Blockchain technology · Artists · Cultural finance · Creative and cultural industries · Barriers

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1 Introduction

Compared to other professions, artists face unique challenges in their daily working routines (Elkins & Fry, 2021). To make a living, they need to balance art and innovation with entrepreneurship (Eikhof & Haunschild, 2006; Elkins & Fry, 2021; Parker, 2013; Regner, 2021). On the one hand, they need to be creative developers who create new and innovative content (Caves, 2000; Rosselló & Wright, 2010). On the other hand, artists also need to act in profit-oriented ways and take on entrepreneurial liability (Eikhof & Haunschild, 2006; Ellmeier, 2003; Leadbeater & Oakley, 1999; Regner, 2021). Coupling these two facets is vital for artists to ensure the funding of their work and projects (Bridgstock, 2011; Dex et al., 2000).

However, artists encounter difficulties using traditional funding channels, such as banks or venture capitalists, to finance their projects (Konrad, 2015, 2018; Mendes-da-silva et al., 2016). They find it difficult to raise funding due to the high risk associated with their work (Fraser & Lomax, 2011; Li et al., 2019; Maman & Rosenhek, 2020). Because the value of artistic work lies in intellectual property, artists own hardly any substantial business assets or securities (Caves, 2000; Mendes-da-silva et al., 2016). At the same time, the problematic predictability of demand for intellectual property leads to information asymmetries between artists and investors (Fraser & Lomax, 2011; Higson et al., 2007; Vismara, 2018). Consequently, artistic projects are high-risk investments with minimal collaterals, and the artists struggle to obtain funding through traditional financing channels (Dalla Chiesa, 2021; Higson et al., 2007; Regner, 2021; Tosatto et al., 2019). Nevertheless, an emerging form of reward-based crowdfunding, the so-called Initial Coin Offerings (ICOs), now rises as a promising new funding alternative for artists.

ICOs can be defined as “open calls for funding promoted by organizations, companies, and entrepreneurs to raise money through cryptocurrencies, in exchange for a ‘token’ that can be sold on the Internet or used in the future to obtain products or services and, at times, profits” (Adhami et al., 2018, p. 64). ICOs enable reward-based mass financing similar to classical crowdfunding campaigns particularly used for small to medium-scale projects. However, in contrast to classical crowdfunding, such as Kickstarter, ICOs are less regulated and can be used regardless of country-specific constraints or legal frameworks (Adhami et al., 2018; O’Dair & Owen, 2019). While classical crowdfunding is typically limited to sending and receiving money within a single country, ICOs can be used beyond country barriers (O’Dair & Owen, 2019). Further, classical crowdfunding campaigns provide investors with money in exchange for future participative use of the final product, envisaged discounts, or limited merchandise (Dalla Chiesa, 2021; Elkins & Fry, 2021; Regner, 2021). In contrast, ICOs provide investors with tokens that can be traded like shares (Essaghoolian, 2019). Accessing ICOs as financing sources can also benefit small-scale projects, thereby enhancing artists’ independence, focusing on individual creativity, benefiting the long tail of cultural production, and ensuring content diversity (McGrath et al., 2017; Peukert, 2019). Consequently, ICOs offer artists a promising alternative for project funding (Beck et al., 2016; Sadhya et al., 2018).

The advantages of ICOs have led to widespread adoption of this form of financing in various sectors and industries. Within the first ten months of 2019, the distribution of tokens raised more than USD 4.1 billion in a total of 380 ICOs (PwC, 2019). The high investment volume emphasizes investors' increasing interest in ICOs. However, only 5.5% of all successful ICOs in 2019 were related to artistic projects' funding, and then all these projects were related to the media and entertainment sector (PwC, 2019). Considering the compelling advantages of funding art projects and the generally high investment volume in ICOs, it seems surprising that artists have not adopted this form of financing much more widely. This manuscript aims to uncover which barriers deter artists from financing their projects through ICOs. Our research question reads as follows:

Which barriers do artists perceive to funding projects using ICOs?

Based on 35 qualitative interviews with artists and software developers working in the creative and cultural industries (CCI), we identify eight external barriers that hinder the use of ICOs and investigate the influence governments, investors, consumers, and intermediaries have on these barriers. In doing so, we highlight the dyadic barriers and relationships between stakeholders and artists and uncover their indirect connections (Rowley, 1997). Our findings provide a holistic picture of the barriers that hinder artists' adoption of ICOs.

Our research makes several significant contributions to the literature. First, our research contributes to the literature on cultural finance and funding (Angelini & Castellani, 2019; Li et al., 2019; McGrath et al., 2017; Schweizer, 2018). By focusing on artist-specific barriers (O'Dair & Owen, 2019), we extend previous findings on the challenges ICOs encounter, e.g., the emergence of speculative investment bubbles, weak legal and regulatory control, and an insufficient number of fractional ownerships. We find that artists' complex and fragmented legal situation leads to a high effort and error risk in preparation for ICOs. Further, our findings illustrate that investors frequently reallocate artistic products and services into more lucrative industries. Second, we contribute to the literature on stakeholder resistance by uncovering lack of consumer interest regarding artists' support needs. Also, we disclose how influential intermediaries' resistance hinders artists' widespread adoption of ICOs. Third, our paper contributes to the growing body of research on ICOs in general by illustrating that, rather than reducing investment risk (Fisch, 2019; Yu et al., 2018), ICOs merely shift the risk. Although ICOs can provide security for investors and reduce information asymmetries (Chen et al., 2017; Cong & He, 2019; Lee, 2019), the lack of regulations can cause considerable price fluctuations due to coin volatility. In turn, price fluctuations can result in extensive financial losses and associated risks for investors and capital seekers. Finally, we answer the recent call for research to examine the usefulness of regulations (Adhami et al., 2018) by clearly advocating in favor of regulatory measures in the debate on whether ICOs should be regulated (O'Dair & Owen, 2019) or not (Amsden & Schweizer, 2018).

2 Theory

2.1 Artists as creative entrepreneurs

Many artists work as freelancers and cooperate in project-based organizations (Gill, 2002; Hotho & Champion, 2011; Mould & Comunian, 2015). In such structures, a highly diverse set of individuals work together to accomplish specific tasks in a limited time (Bakker, 2010; Lundin & Söderholm, 1995). These short-term and high-intensity work forms are preferred when artists are confronted with high product complexity, technological uncertainty, cross-functional business expertise, and rapidly changing markets (Hanisch & Wald, 2014; Hobday, 2000). The participating artists follow daily routines characterized by self-marketing, self-managing, and self-funding (Eikhof & Haunschild, 2006; Elkins & Fry, 2021; Shukaitis & Figiel, 2020). Due to such working conditions, artists are constantly busy looking for new commissions and funding opportunities for their projects (Alper & Wassall, 2006; Bridgstock, 2011; Dalla Chiesa, 2021).

For three reasons, financial service providers are rigorous in granting artists funding for their projects. First, intellectual property offers little collateral (Caves, 2000; Dalla Chiesa, 2021; Fraser & Lomax, 2011). Since the essence of artistic work is intangible in the form of intellectual property, on average, artists have fewer assets than comparable non-creative entrepreneurs (Fraser & Lomax, 2011; Konrad, 2015, 2018). Consequently, traditional investors are less likely to invest in artists and creative projects (Li et al., 2019; McGrath et al., 2017). Second, it is challenging or nearly impossible to estimate the future demand for creative goods (Konrad, 2018; Nanda & Rhodes-Kropf, 2017). For example, whether a film will be successful or not is extremely difficult to predict. Third, there are no ex-post facto possibilities to truthfully trace individuals' past value creation processes along the value chain (Eikhof & Haunschild, 2006; Kompatsiaris & Chrysagis, 2020). Therefore, financial service providers cannot precisely assess an artist's talent and the associated value (Higson et al., 2007). Overall, investors' inability to estimate a project's success and each artist's contribution results in marked information asymmetries between investors and artists (Konrad, 2015), which places a heavy burden on the project funding for artists.

In recent years, artists have increasingly explored alternative and crowd-based approaches for funding their projects (Boeuf et al., 2014; Dalla Chiesa, 2021; Mendes-da-Silva et al., 2016; Regner, 2021). Through crowdfunding, projects are financed mainly by private investors (Belleflamme et al., 2014). The financing volume is usually achieved due to many investors who provide a comparably small amount of capital (Agrawal et al., 2011; Elkins & Fry, 2021; Mendes-Da-Silva et al., 2016; Regner, 2021). While some researchers consider such contributions as donations (e.g., Allison et al., 2017; André et al., 2017; Thüridl & Kamleitner, 2016), recent studies have shown that the funders' behavior parallels investors' behavior (e.g., Hobbs et al., 2016; Hornuf & Schwenbacher, 2018; Wallmeroth, 2019; Xiao & Yue, 2018). A promising and increasingly popular opportunity is the use of ICOs.

2.2 Initial coin offerings

ICOs are now a significant form of crowd investment in which companies or individuals sell tokens and receive fiat money in return. All transactions and processes can be transparently displayed and tracked based on blockchain technology. ICOs are particularly suitable for people in the CCI because they can reduce information asymmetries between the parties involved (O'Dair, 2019). Consequently, ICOs provide an appealing opportunity for artists to get their projects and ventures funded.

One example of a successful ICO in the CCI is the MobileGo project that raised \$53.07 million during a one-month ICO (MobileGo, 2021). The ICO was developed to fund decentralized smart contract technology solutions for the gaming industry to develop smart contract technology and support marketing and branding investments. The overall aim was to establish a new mobile gaming store as an alternative to the gaming market dominated by Apple and Google Play. The project would offer lower fees on developers' revenues than those Apple and Google Play charged and would reduce the time to obtain payments (MobileGo, 2021).

The Theta Network ICO (Theta Token, 2021) represents another prominent ICOs use case. Initially capped at 600,000,000 Theta, the starting price for tokens was \$0.15 or Ethereum equivalent. When they started, the ICO offered early adopters a bonus scheme. The distribution of the Theta tokens generated in the ICO will consist of 50% for sale in the ICO, with an additional 30% reserved by Theta Labs; further, 10% will be dedicated to network seeding, while a final 10% will be reserved for Theta Labs' partners, advisors, and employee incentives.

In sum, ICOs have far-reaching positive effects on the financing of CCIs and their projects, especially if they are small or medium scale. Unlike crowdfunding, ICOs enable a global market that allows capital providers to invest in artistic projects in a profit- and market-oriented way (Benedetti & Kostovetsky, 2018). While crowdfunding projects tend to be characterized by philanthropic motivations (Dalla Chiesa, 2021), ICOs provide collaterals for artists and investors through a tokenized reward mechanism (Rohr & Wright, 2018). Despite the high level of uncertainty that usually accompanies investments in CCIs (Caves, 2000), trust in the technology, i.e., in the tokens, compensates for the low certainty of success (Beck et al., 2016; Ostern, 2018). Therefore, ICOs meet the needs on both sides of the market: On the one hand, CCIs offer the opportunity to generate larger volumes of investment despite artistic work's low predictability, and on the other hand, potential investors, who decide to support artistic projects, obtain the necessary collateral and consideration.

2.3 Process of an ICO execution

Through ICOs, projects or organizations can obtain mass financing by using blockchain technology. Blockchain provides the foundation for non-manipulable,

decentralized information recording in conducting ICOs (Pazaitis et al., 2017; Swan, 2015). Further, while proceeding with ICOs, blockchain technology enables an automatic decentralized governance mechanism (Beck et al., 2016; Catalini & Gans, 2018; Dalla Chiesa, 2021; Fisch, 2019).

The high volume of investments underlines high investment interest in ICOs. The main advantage is that ICO investors receive a monetary counter value to their investment with simultaneous risk minimization (Fisch, 2019). The distributed tokens serve as a security and can automatically be exchanged back into fiat currency. Therefore, ICOs offer investors protection against total loss and, if carried out correctly, offer a high degree of security (Howell et al., 2020).

To successfully execute ICOs, specific steps and resources have to be considered and provided (Arnold et al., 2019). The starting point of an ICO is usually the so-called White Paper, which typically provides detailed information about the project or idea. The provision of a White Paper also facilitates transparency (Essaghoolian, 2019). It aims to create confidence between potential investors, thus convincing them to fund a project. In the next step, so-called pre-sales are usually carried out. These provide early investors with the opportunity to procure discounted tokens in the first round of financing. Thereby, a limited number of tokens are distributed. Next, the actual Coin Offering follows. Investors can purchase coins and subsequently trade them once the ICO has been completed (Amsden & Schweizer, 2018). In order to generate revenue, the investors must exchange the tokens into fiat currency. Figure 1 illustrates an ICO process. Although ICOs can appear to be just another form of crowdfunding, the two kinds of funding differ substantially.

2.4 ICOs vs. crowdfunding

An ICO could seem similar to current fundraising methods, which have Kickstarter campaigns, early-stage investing, or initial public offerings (IPOs); however, there are major differences in (1) access to the market, (2) counter value offered, and (3) trade with the counter value. First, ICOs are not geographically limited, so that investors can be granted equal access regardless of their geographical location (Mollick & Nanda, 2016). Crowdfunding campaigns, in contrast, are geographically tied to the countries in which their platforms operate. As a result, artists in whose countries such services do not operate are excluded from the possibility of project

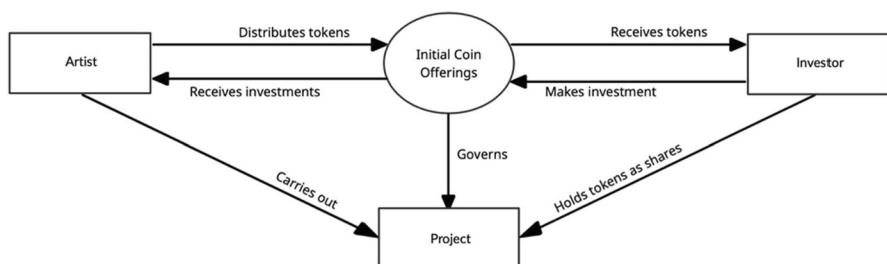


Fig. 1 Sequence of a possible ICO process for financing artistic projects

financing through crowdfunding (Agrawal et al., 2011; Dalla Chiesa, 2021; Huang et al., 2012; Rohr & Wright, 2018; Thürridl & Kamleitner, 2016).

Second, ICOs offer tokens as monetizable equivalent value. In crowdfunding projects, investors primarily receive physical products, discounts, or even e-cards as rewards (Jiang et al., 2020; Thürridl & Kamleitner, 2016). In IPOs, shares are distributed to the company as stocks. Shares have similar functions to those of tokens. The tokens acquired in an ICO are immediately tradeable for other tokens, but an investor who holds the token does not get to vote on decisions made by developers, nor are investors entitled to assets. Nevertheless, tokens are not regulated by institutions such as the US Securities and Exchange Commission (Burns & Moro, 2018; Joo et al., 2019). Moreover, no explicit law limits the pre-sale to accredited investors, thus allowing anyone with a bank account or credit card to purchase tokens and participate in the ICO.

Third, ICOs' investors speculate on a return of investment on the secondary market, comparable to the goal investors in IPOs have (Adhami et al., 2018; Amsden & Schweizer, 2018; Benedetti & Kostovetsky, 2018; Catalini & Gans, 2018). Interestingly, rewards in crowdfunding projects such as busking (Elkins & Fry, 2021) or membership models of financial support (Regner, 2021) are subject to uncertainty due to artists possibly not continuing to fulfill the supporters' expectations (Chiesa 2021; Regner, 2021). On the other hand, ICOs allow investors to benefit from financial returns created through the funded project. They achieve this by expanding funding opportunities beyond ex-post capitalization of an artistic performance or predefined rewards as is typical with Kickstarter campaigns (Bretschneider & Leimeister, 2017; Elkins & Fry 2021; Harms, 2007). Consequently, ICOs provide the opportunity to participate in and subsequently benefit from cultural production, thus complementing the artists' portfolio of financing channels (Elkins & Fry, 2021; Mendes-Da-Silva et al., 2016; Tosatto et al., 2019). At the same time, ICOs offer investors significant benefits based on equal market access, monetizable and tradeable counter values, and geographical independence.

2.5 ICOs' benefits for artists

With ICOs and the underlying blockchain technology, artists can offer potential investors security and tangible returns (Fisch, 2019). By using smart contracts, artists have the opportunity to make their work process available to potential investors without having to commit significant amounts of time or human resources. By relying on ICOs, artists offer shares of their work for investors to fund their projects. The artists retain ownership of their projects and do not conform to the investors' preferences. More importantly, they also retain all rights to their intellectual property, even if multiple actors work on a single project (Peukert, 2019). This aspect is especially important in the CCI.

Beyond funding artists' projects, ICOs offer them smart and transparent opportunities to manage their payments. On the one hand, artists can rely on smart contracts to automate their licensing and process payments in a fraction of a second. On the other hand, by using ICOs, the function of intermediaries becomes obsolete, or

at least less critical (Elkins & Fry, 2021). Creative artists can directly contact their backers or customers without relying on intermediaries, which are, above all, costly. At the same time, the use of ICOs allows for a higher degree of control. For example, if an artist's song is played on the radio, a smart contract will manage the artist's immediate payment without further intermediaries' intervention (O'Dair, 2019).

Furthermore, as a governance mechanism, ICOs can reduce information asymmetries between artists and investors (O'Dair & Owen, 2019). All contracting parties are granted equal access to the recorded data through automated recording mechanisms (Lee, 2019). Due to the immutability of the ICOs' governance mechanisms, entered information cannot be changed by any contracting parties (Puthal et al., 2018). This counteracts the harmful effects of information asymmetries, which present as moral hazards or adverse selection (Cong & He, 2019). ICOs offer investors the opportunity to participate in a projects' funding while benefiting from (1) low transaction costs, (2) risk minimization, and (3) real counter value for their investment. Consequently, ICOs are a promising alternative for funding companies, projects, and above all, artists. However, although the interest and investment volume of ICOs has risen impressively, various structural challenges still lead to an adverse perception of ICOs.

3 Methodology

Initially, we were struck by the divide between the predominantly theoretical and technical papers highlighting the promises for financing projects and artists through ICOs, and the scarcity of empirical papers supporting these claims. We designed an inductive study to understand why the promises might not transfer to the artists and creative professionals (Gehman et al., 2018; Glaser and Strauss, 1967). For our design, we employed the complementary approaches of grounded theory (Gioia et al., 2013) and qualitative content analysis (Mayring, 2000).

3.1 Sampling and sample

First, we followed a theoretical sampling approach (Glaser and Strauss, 1967) to identify knowledgeable informants. In contrast to quantitative research aimed at sampling a representative subsample, qualitative research requires sampling to provide deep insights into relevant concepts complementing existing theory (Eisenhardt, 1989; Gehman et al., 2018; Gioia et al., 2013). In our case, we selected knowledgeable informants and had some connections to blockchain technology. We identified 159 companies using blockchain technology or offering complimentary services for the CCI. These companies cover the CCI broadly, representing the areas of music (16), films and movies (14), art (46), advertising (35), fashion (5), publishing (32), and photography (11). Additionally, we identified 253 artists whose work is distributed across eight different blockchain platforms, ensuring participants generally know the underlying technology.

We contacted the identified informants via email, which led to 35 interviews, covering ICOs from both an artistic and a technical perspective. In particular, these interviews included 28 artists and creative professionals, of whom three were ICO funded, which represents approximately 11% of the interviewed artists—a comparatively good number considering that the literature suggests an average of 5.5% (PwC, 2019). We conducted the remaining seven interviews with software developers engaged in building ICO applications (see Table 1 for a detailed sample description). On average, our interviews lasted about 47 min.

We conducted semi-structured interviews to allow for emergent insights and individual informants' expertise while simultaneously ensuring that the interviews covered similar areas (Flick, 2014; Gioia et al., 2013). For artists and creative professionals, our questions focused on awareness and use intention regarding ICOs, underlying motivators for such use, challenges associated with adopting and funding through ICOs, and desired improvements. This allowed us to learn about the improvements this technology has already brought to the artists and the motivations that have driven them to solicit funding through ICOs. In addition, we were able to gain meaningful insights on what enhancements current ICO solutions need to fund artists extensively and what is currently preventing broader use of ICOs. For the software companies, our questions focused on motivators for developing blockchain applications, challenges experienced while developing those applications, and the funding of their blockchain-based companies and projects for the CCI through ICOs. This enabled us to identify the circumstances preventing the funding of artists' blockchain-based products and services. When necessary, we slightly adapted the interview guide for this process (Gioia et al., 2013) to emphasize challenges and

Table 1 Overview of the survey sample

Industry	<i>n</i>	Average age	Average years of work experience	Gender (share females) (%)	Nationalities
Photography	8	32 (10.82)	7 (6.37)	14	DE, MX, PL, US
Art	7	38 (14.20)	11 (13.91)	43	DE, MX, PT, US
Music	6	27 (12.25)	5 (9.28)	33	BE, DE, SP, US
Video and film	3	39 (11.53)	9 (7.77)	0	DE, EN, SL
Fashion	3	41 (14.47)	15 (8.08)	33	AR, US
Automotive design (visual esthetics)	1	26	8	0	US
Software development	7	34 (7.20)	6 (6.78)	0	EN, RO, US

Standard deviation provided in parentheses

Country codes: AR = Argentina; BE = Belgium; DE = Germany; EN = England; MX = Mexico; PL = Poland; PT = Portugal; RO = Romania; SL = Slovenia; US = United States of America

barriers to ICOs funding. By specifically interviewing artists and software developers, we could uncover the desired adjustments, challenges in funding projects through ICOs, and challenges during the development of blockchain applications. Overall, based on our interviews, we obtained a comprehensive understanding of the underlying mechanisms and barriers hindering the funding of artistic projects through ICOs.

3.2 Data preparation and analysis

All interviews were recorded, anonymized, and transcribed verbatim to ensure accuracy and consistency in our data (Flick, 2014). After having transcribed the interviews, we employed an open coding technique to identify relevant and emergent themes raised by our informants (Eisenhardt and Graebner, 2007; Gehman et al., 2018; Gioia et al., 2013). Through coding, it became increasingly evident that challenges and barriers associated with ICOs and blockchain outweighed the perceptions of ICOs as potentially helpful and of improved funding opportunities as important for the CCI. Reading these frequently occurring themes and initial preliminary findings against the literature (Gioia et al., 2013; Glaser and Strauss, 1967) revealed that extant research offered few empirical insights on experienced and perceived barriers restricting ICO funding in the CCI. Therefore, our next step was to identify and understand the relevant barriers. We conducted a qualitative content analysis with this increasingly clear focus by identifying relevant text passages and coding barrier categories to reduce data complexity (Mayring, 2000, 2004). Three researchers independently coded the data material. After evaluating 30% of the material, we reviewed and revised our categorization.

Identifying the relevant categories in our data assisted us in coding the barriers consistently while explicating them extensively; thus, we could balance the inductive depth with a consistent analysis across our data. This approach also assisted us in accounting for categories by drawing on the previously established theoretical knowledge of barriers. We derived subcategories from our data to explicate the barriers and their underlying mechanisms inductively. We grouped aspects and first-order concepts that are related or have similar content. Subsequently, we aggregated our first-order concepts to emergent second-order themes (Gioia et al. 2013). Corresponding passages in the material were then assigned to the newly formed categories. We iterated the analysis steps during the coding process, contrasting our findings to the literature and comparing our codes to ensure consistency. In doing so, we continuously refined our categories. This yielded the final data structure of our coding, as shown in Table 2.

4 Results

Interview participants were either (a) artists and creative professionals or (b) representatives of software providers that develop blockchain-based products and services for the CCI. This sample allows us to comprehensively identify and analyze

Table 2 Data structure

1st order concepts	2nd order themes	Aggregate dimension
Complex legal situation	Legal shortcomings	Barriers hindering the utilization of ICOs for funding artistic projects
Lack of regulations	Investment restrictions	
Low investment volume		
Reallocations of products and services	Lack of consumer interest	
Lack of awareness	Intermediaries' resistance	
Inertia regarding change		
Resistance to transparency		
Fear of losing power		

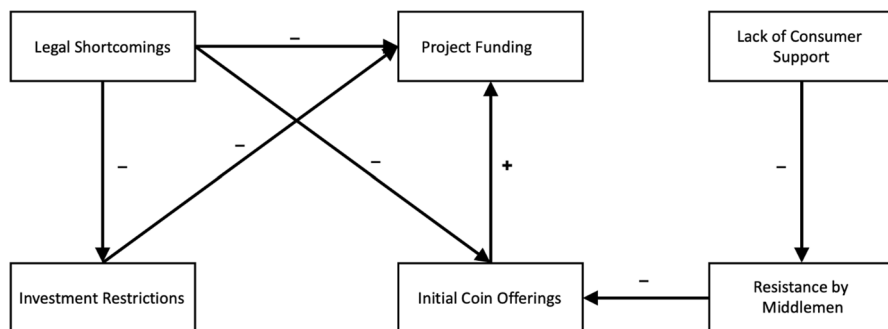


Fig. 2 Conceptual model of the barriers hindering the funding of artistic projects through ICOs

barriers to funding artistic projects through ICOs, linking the various aspects to one another. Our conceptual model of these barriers is given in Fig. 2.

Overall, the results indicate that lacking legal clarity keeps investors from funding artistic projects in general and through ICOs in particular. Additionally, this effect is reinforced because the legal uncertainty poses a prohibitive challenge, particularly to institutional investors. Nonetheless, artists and creative professionals still increasingly turn to ICOs because funding is hard to come by, and they are therefore interested in exploiting this new opportunity. However, what inhibits artists and creative professionals interested in ICOs are the underlying software and services, as these require technological knowledge the individuals find challenging. Additionally, as ICOs can potentially eliminate previously engaged intermediaries, the intermediary has little incentive to guide artists and creative professionals toward ICOs. Thus, as long as ICOs appear too complex and complicated while also lacking sufficient customer support from the software and service providers, artists and creative professionals cannot use them effectively.

4.1 Legal shortcomings

We note that due to (1) the complex legal situation for artists and creative professionals and (2) the lack of ICO regulations, governments negatively influence artists' decisions to fund their projects through ICOs. Data preparation and the ICOs' implementation require artists to deal with large volumes of administrative work. As experts have noted, the underlying reason for this is the absence of uniform regulations that suitably control ICOs:

"If you are a singer, you have to pay, whether you want or not. Even if you want to be funded through ICOs, if the money does not go through the collective society of the performing artist, it is not being done lawfully, and the artist will be sued. As an artist, you are not on the side of whatever the law says."
(Artist, Music Industry)

The lacking uniformity of national and international regulations causes the high organizational effort required to prepare and execute ICOs:

“Many new complexities and problems emerged just because we are at the front line. We had to think of everything when we first deployed the blockchain, for instance, determining which different tests should be run before implementation to ensure that there would be no conflict between the nodes. Imagine if the blockchain were to fail, and no one would earn tokens.” (Software developer, Video- and Film industry)

Differing national regulations increase the organizational effort and human error rate when data are being prepared for license processing. Consequently, artists fear legal consequences arising from pursuing ICOs:

“They [companies] are recording people’s private information. Many companies are doing this, and that is wrong. It is a massive issue because these companies and artists can be held liable. For instance, if somebody wants their personal information to be removed [and it does not happen], you, as an individual, can be held liable.” (Software developer, Music Industry)

Many intellectual property rights are threatened due to insufficient meta-data recording, i.e., important data containing information on the copyright holders. If contract details contain incorrect author information or are based on the wrong national regulations, the funding execution can be jeopardized, representing an existential financial risk for artists. However, while insufficient meta-data is critical for effective ICOs, providing extensive meta-data generates additional problems, particularly when it contains personal data. The ICO’s immutability, technically implemented through the blockchain, makes it very difficult to adapt or delete data. Nevertheless, the European General Data Protection Regulation (GDPR) provides individuals with the right to have any personal data corrected or deleted on their demand. These laws essentially put software manufacturers in a quandary, as one expert explained:

“Imagine I register the code and the title of someone’s work. Then that person wants his or her information deleted. However, we cannot delete it. Instead, I can be fined by the protection agency for not removing that persons’ information. If I do not remove the information, they will continue to charge me. That is the problem resulting from having public information displayed. If I record information on the blockchain, that information will not disappear. Instead, I could be fined over and over again.” (Software developer, Video- and Film Industry)

Balancing trust-building features of blockchain’s immutability with the data privacy rights is further obscured because ICOs are not geographically restricted, while legislators have not yet reached a consensus on the proper laws to apply. For example, data protection guidelines or copyright rules in the investors’ country might not apply in the artists’ home country. Consequently, legal inconsistencies could arise in conducting ICOs.

Due to poor legal regulations for cryptocurrencies, they are particularly affected by coin volatility. This leads to unpredictable funding ranges for artists

and creative professionals, as the value of the cryptocurrencies fluctuates almost daily in double-digit ranges:

“Over the past three years, it first felt as if it was going to happen very quickly. However, it really slowed down. I think one problem is the origin of investments in the blockchain. At the moment, many investments come from private investors, and they are very cautious because of general issues in the world economy, the volatility of the Bitcoin, blockchain, etc.” (Software developer, Photography)

“The other thing is that usually tokens are used for transactions. Imagine you are an artist, and you are trying to sell your songs. Let us say your project is going really well, and people are buying your music. Your music is listed and has value and all. Now the artists have to cash out those tokens, but the bank will usually just close your account.” (Software developer, Music Industry)

Overall, legal barriers influence artists’ funding in two ways. On the one hand, different national regulations and laws result in high organizational effort and artists being strongly susceptible to errors, e.g., incorrect allocations or legal gray areas and inconsistencies emerging. This can significantly restrict investment intentions. On the other hand, poor regulations for ICOs slow down their continuous development. This is troublesome because artists’ use of ICOs is at an early stage, where errors and mistakes are more likely to happen, and correct ICO usage evolves through market experience. Consequently, it is inevitable and self-evident for companies to operate within a legally protected framework that does not endanger their business’s existence.

4.2 Investment restrictions

In financing their projects through ICOs, artists face barriers of (1) low investment volume and (2) investors’ reallocating products and services. First, regarding a significant under-investment through ICOs:

“As a venture capitalist [VC], you cannot invest in tokens. [...] As a VC, when people invest, the government asks questions, and you can barely provide information about the token, like no reports; auditors will not audit you. After all, everybody is afraid of crypto.” (Software developer, Music Industry)

The underlying reason is that classical investors such as banks or venture capitalists lack a legal foundation for investments that use ICOs:

“Governments should develop guidelines so that we [developers, artists, and institutional investors] can use and sell the tokens according to these guidelines. Moreover, the government should also be pressing commercial banks to support the establishment of guidelines as well [...]. Right now, venture capitalists do not like to invest in blockchain. [...] They do not want to risk their reputation by getting involved with the blockchain right now because they lack the legislative framework.” (Software developer, Music Industry)

Additionally, due to cryptocurrencies being inadequately regulated, companies and artists are only allowed to use them to a minimal extent:

“Even if artists raise all the money through ICOs, they still need to pay the developers and everybody else. However, they have a hard time exchanging crypto-currencies for normal money. Let us say you raised all that money and want to pay your people; the bank will put it on hold, saying, ‘y’all look, this is some freaking stuff. Where did the money come from?’” (Software developer, Music Industry)

Depending on national regulations, cryptocurrencies might only be used to pay wages partially. Consequently, it will be difficult for companies to use those accumulated investments to maintain their business operations. However, since these investments usually provide companies’ financial basis, they need to have this capital available for current expenses.

Second, in addition to acquiring funding through classical investors like banks or venture capitalists, interview partners highlighted that products or services developed for artists and financed by ICOs struggle to persist in the market. As one interviewee described:

“It is always the same with all those projects that have been started, no matter by whom they were started. One day, you stop hearing about them, and that is very frustrating.” (Artist, Music Industry)

Another interview partner explains in more detail how he perceives shareholders transferring ICO products and services for artists to other industries:

“The problem is deeply rooted in the whole area of the creative and cultural industries. Many ideas are just [...] trying to improve the creative and cultural industry. However, investors often say something like: ‘Hey, good idea! We will take over from here. However, we will no longer support the project in the creative and cultural industries. We will push the project in another industry because it brings in more money.’” (Software developer, Photography)

Once potential project investors have been found, there is a high risk that they will not push it further within the CCI. From the investors’ perspective, low expected returns from artists create a lack of monetary incentives to develop and offer products and services. Nevertheless, with ICOs promising in other industries, shareholders recognize the potential of products and services initially developed for artists and then transfer them to more lucrative use cases outside the CCI, often found in finance or health care. Therefore, using ICOs for funding artistic projects slows down due to the general restrictions on investments in ICOs and opportunistic investor behavior.

4.3 Lack of consumer interest

Consumers’ (1) lack of awareness and (2) inertia regarding change give rise to additional barriers to ICOs financing artistic projects. In the CCI, the large

players—multinational corporations—manage complex international value and supply chains. Corporations benefit from aggregating individual work steps and processes, strengthening their market position. In turn, these value chains can be difficult for consumers to comprehend and to assess, as one respondent explained:

"I think they [large corporate organizations] are just following the minimum legal requirements and are doing a lot of advertising on their products to distract from the real issues. Regarding their value chain, the industry does not want it to be traceable." (Designer, Fashion Industry)

Consequently, consumers find it difficult to reconstruct the different value chains and networks. With no or only very little information on the artists' working conditions, consumers do not understand how ICOs might help artists overcome these problems. The lack of consumers' awareness is further amplified by multinationals' interpretation of their ethical and ecological obligations. For example, products are advertised as being ecologically sustainable in their entirety, although in reality, sustainability often only applies to individual work steps or parts of the products. Considering that sustainability is a prevalent topic in the media and receives much attention, one realizes how much more difficult it actually is for customers to understand the working conditions of the artists, the role of the middlemen, and the potentials offered by ICOs.

In addition to the lack of interest, consumers are unaware of how to initiate change and improve artists' working conditions by supporting the implementation of ICOs. Interview partners stated that the consumers themselves show inertia regarding change:

"I feel that it [change in the creative and cultural industries] is really difficult because most consumers and societies have a very distorted view. They do not want to actively work on the problem, although each of us is responsible for these problems." (Artist, Painting)

However, even if consumers do not realize they can cause change, their decisions and preferences do have an impact on the artist' working conditions:

"We [as consumer] are the drivers of these problems; they do not come from external issues. For example, in Latin American countries, people's quality of life improves. At the same time, people are starting to buy fast fashion [...] that they eventually never use. This example illustrates the problem: We as the consumers are a big part of the problem." (Designer, Fashion Industry)

Overall, consumers' lack of awareness and their resulting inertia regarding change constitute customers' interests, not focusing on artists' working conditions and potential exploitation in the industry. As a result, consumers feel no need to exert pressure on other market participants to improve artists' current working conditions. Consequently, consumers have little incentive to support funding artwork through ICOs to improve artists' situation and eventually constrain intermediaries' position within the network.

4.4 Intermediaries' resistance to engage with ICOs

Influential intermediaries fear (1) increasing transparency along the value chain of artistic production, as well as (2) the loss of power if artists start to use ICOs frequently. Intermediaries—usually large corporations—are reluctant to engage with this new technology because they lack knowledge and experience with the underlying technology:

“We are often talking to a bunch of folks who are not particularly familiar with the technology. We try to convince them to take a big leap in their minds. We teach them why they should integrate blockchain technology. However, they barely know what Bitcoin is. That means a lot of educating work on our part and much explaining as to why it is useful, why it is not scary, even though it is new.” (Software developer, Film- and Video Industry).

One of the underlying reasons for resisting ICOs is that intermediaries lack interest in improving transparency throughout their value chain. Intermediaries fear that ICOs enable extensive monitoring of their business activities and processes:

“In the music industry, you do not know who is paying you, and you barely know the amount you are to be paid. You know that you know nothing; you just receive a check. I do not know if it was the right amount [referring to fair compensation], or not; nor whether I should complain, or whatever. However, having a [technology] where you could trace all the transactions or see where your music has been broadcast, all locked in the blockchain, that could bring a great deal of transparency.” (Software developer, Music Industry)

“But there is a point that it is not in [the intermediaries'] interest, in many ways. Because basically, we know that blockchain is the big equalizer. And there is a lot of, I call it, blind money. In the music industry, publishers, particularly the big guys, Universal, Sony, BMG, etc., get a lot of money that just goes into this black box.” (Artist, Music Industry)

An increase in transparency in the music industry, for example, can result in artists being better informed about their royalties. Nevertheless, this could result in intermediaries such as record labels or music platforms losing significant revenue because currently, many royalty payments remain un-collected due to IP-right holders, artists' unawareness, or lack of information. Those *black box royalties* have become a collective term within the industry for money earned but never paid out to artists, songwriters, or property right holders. Currently, these royalties are claimed by the intermediaries after some time.

Further, one of the interview partners reveals specific factors that contribute to preventing increased transparency through ICOs:

“I think there are several things to it. First, it requires intermediaries to invest many resources because they operate on a very large scale. And it is not only about financial resources but also about training people and changing their mindset. Second, they dominate the market because they have the big studios with the big content owners, where people are willing

to pay them more than the actual value of what we are selling, and then they do not want to lose that supremacy that they have gained by leveling up with the rest of the market.” (Software Developer, Film- and Video Industry).

The intermediaries’ resistance to engaging with ICOs results from them potentially profiting financially from the existing intransparency at the expense of the artists. Their influential position in the value chain and their inertia as an organization make it possible to maintain opaque activities and offer little incentive to engage with ICOs.

Second, intermediaries, such as record labels and movie studios, feel they could become superfluous or lose power. Currently, their business activities essentially build on their strong influence within their networks, in which they manage cash flows and contracts, administrative tasks, and essentially rely on being a trusted third party:

“My company has a shallow profit margin. I am happy if we make money at all because there is so much work involved in finding these performance opportunities. Blockchain’s potential is that work could be drastically reduced, or there would be no need for that particular kind of work. There may still be a need for my company, but not for that particular kind of work.” (Software developer, Music Industry)

ICOs offer the benefit of transparently recording transactions and making the information available throughout the entire value chain. One interviewee emphasized that strong intermediaries are particularly afraid of making such data publicly available, which they consider competition-relevant:

“Mainly because of political issues, I would say, because, with a classical approach, you need somebody to control, to cut the control of this database. This means that you had several players, like collective management and organizations and big industry players, in there. But then, at one moment, the question arises – who will own the system that allows us to produce these? Moreover, there is lots of gross interest here, so it is mainly a political issue. Nobody wants to give away their data because this is an asset.” (Software developer, Music Industry)

Losing the dominant position within the value-creating networks of the CCI makes it more challenging to engage consumers and attract or retain artists. Thus, ICOs are perceived as a potential substitute to the existing intermediaries, fundamentally challenging their power and business model, subsequently offering little incentive to engage with ICOs:

“People go to Twitch because that is where all the viewers are. It is a network effect of having the biggest platform as you get more viewers, and consequently, you get more streamers. Twitch makes a lot of money as an intermediary. Imagine you have a platform that’s just like it, except that content creators get paid directly, and no one is in the middle taking a cut. The decentralized version would reward content creators more fairly; that is not

a thing twitch necessarily does. [...] The same thing holds for record labels: They have a reputation for terrible deals and getting rich off the backs of musicians. [...] There is a way [referring to ICOs] in which you can provide their[referring to intermediaries] value and get those services without them acting as the gatekeeper and enforcing deals on people.” (Software developer, Film- and Video Industry)

Through peer-to-peer networking, the distributed technology underlying ICOs theoretically eliminates the need to maintain auction houses, record labels, or film distribution as intermediaries between consumers and artists. Automated transparent documentation potentially substitutes the current need for intermediaries as trusted third parties. Nevertheless, influential intermediaries find themselves in a situation where their dominant position, size, and reach allow them to position products and significantly influence consumer behavior. Within the complex and fragmented networks creating value in CCIs, their business models offer value to artists and financial gains for intermediaries in which they exploit their size to maintain their power and secure their profits.

Our findings emphasize that intermediaries have little incentive to adopt or support the development of ICOs to provide highly transparent funding for artists. As a result, artists lack the necessary support from strong intermediaries, as opposed to, for example the Fintech Industry where classical investors are driving the utilization of ICOs. ICOs’ adoption in the finance industry is far more advanced than in the CCI, where intermediaries perceive ICOs as a threat to their business models.

To answer our research question of why ICOs are rarely adopted in the CCI, we developed a conceptual model of the barriers hindering funding artistic projects through ICOs. We identified four categories of stakeholders that influence the realization of ICOs for artists, namely (1) government, (2) investors, (3) consumers, and (4) intermediaries. Our results indicate that governmental behavior influences investor behavior, which leads to a lack of investment incentives for creative ICO projects. Further, we have shown that consumer behavior influences the decision-making behavior of influential intermediaries in the social network of artists, which leads to the suppression of alternative funding opportunities, specifically ICOs.

5 Discussion

We set out to investigate which barriers artists perceive in considering funding projects using ICOs. Taking a qualitative research approach, we identified eight barriers, illustrated their origins, exemplified stakeholders’ reactions, and elaborated the impact these barriers have on the funding of artists’ projects through ICOs. By identifying (1) the complex legal situation for artists, (2) insufficient ICO regulations, (3) low investment interest, (4) investors reallocating funded projects, (5) lack of awareness, (6) inertia regarding change, (7) fear of increased transparency, and (8) influential intermediaries’ fear of losing power as barriers, we provide new insight on the lack of ICO adoption in the CCI (Ahlers et al. 2015; Allison et al., 2017). Further, we answer the recent call to investigate network ties between artists and their stakeholders (Fisch, 2019). Finally, we identify government, investors, consumers, and

intermediaries as influential stakeholders and elaborate on how these stakeholders respond to and are responsible for the barriers this study has disclosed.

5.1 Research contributions

Our research contributes to the general academic discourse on ICOs and their potential benefit for artists in the CCI (O'Dair & Owen, 2019). First, we show how ICOs do not reduce investors' risks but merely shift them. The lack of uniform laws controlling ICOs leads to complex, fragmented regulations, which causes confusion and results in high organizational effort for artists. The increasing vulnerability to legal consequences when establishing ICOs can bring artists considerable financial damage. Contrary to Amsden and Schweizer's work (2018), our findings emphasize that the lack of regulations regarding ICOs leads to high coin volatility, thereby increasing the investment risk for investors.

Further, our research contributes to the literature on legal restraints in crowd-funded creative projects. In the context of music copyrights, Towse (2017) argues that laws and regulations lag the demand-driven market development and, therefore, do not act as drivers of innovation and creativity. Whereas our research generally supports these prior findings, we additionally find that—while legislation does not stimulate innovation (Towse, 2017)—insufficient legal guidance can nonetheless inhibit and prevent innovation. Consequently, and in line with prior research (O'Dair & Owen, 2019; Peukert, 2019), we argue that researchers and practitioners should provide sufficient legal frameworks for new technologies such as ICOs.

Second, artists in the CCI need to raise awareness among their consumers and overcome their inertia regarding change. Our research highlights that lack of consumer interest regarding the shortcomings ICOs have for artists is mainly due to the artists' complex environment and the perceived opacity regarding how their work adds value. Because of their low costs, ICOs are a viable alternative for funding smaller-scale projects where cultural value may be perceived exceptionally high within a small group of experts (Angelini & Castellani, 2019). Such support for uncertain and niche projects appears especially valuable to individual content producers in their attempt to enrich the diversity of cultural production (McGrath et al., 2017; Peukert, 2019).

ICOs are particularly promising, as tokens can provide fans and investors access to creative artists' value chains. Although digital platforms are lucrative for funding artists in the CCI (Elkins & Fry, 2021; Regner, 2021), future research needs to delve into how different funding systems essentially complement each other. Elkins and Fry (2021) illustrate nicely how platforms enable busking despite people carrying less physical money; yet, in busking funding occurs during or after an artistic creation's delivery and, thereby ex-post the cultural and creative production. Regner (2021) shows how membership-based platforms can ensure reliable ex-ante funding for artists, yet their supporters have to accept uncertainty about whether the artist will deliver the expected results. These examples illustrate that securing funding is exceptionally challenging for larger amounts, especially prior to the creative production and under high uncertainty. In this sense, ICOs could effectively complement other funding sources by combining artistic production benefits—now,

however, in the form of financial returns rather than personal enjoyment of, e.g., a performance—and reducing uncertainty by refunding investments if milestones are not met. ICOs offer consumers access to a holistic and unbiased picture of the processes underlying cultural and creative production while at the same time mitigating uncertainty (Dalla Chiesa, 2021; Regner, 2021). Thus, ICOs enrich the portfolio for financing cultural and creative entrepreneurs and projects.

Third, despite the promises ICOs offer, artists need to be protected from investors' misuse of ICOs. Our research exemplifies how investors, engaging deeply in the artists' value chains, steer ICO-funded products and services away from artists to use them for more lucrative investments once they have the necessary shares in a project. Consequently, artists are 'penalized twofold' because newly developed ideas and projects are directed away from their intended goal, and ICOs' coin volatility reduces investment value. Correspondingly, these circumstances result in the stagnation of innovation and art.

Fourth, our findings emphasize the need for a global solution regarding artists' use of ICOs. We argue that creative work's global and unbounded nature requires a global approach to regulating ICOs. As the results have shown, individual national regulations, such as those in the music industry, create a patchwork of legal frameworks. Regardless of geographical restrictions, investors and artists must agree on a uniform, international standard.

Finally, artists need to cooperate with middle-managers and intermediaries when they implement ICOs. Although ICOs provide artists with a way to become autonomous in taking responsibility for funding and distributing their art, that does not mean middle-managers and intermediaries cannot be involved. Even so, introducing ICOs might initially pose a financial threat to previously included intermediaries such as film studios or music publishers (Elkins & Fry, 2021; Peukert, 2019; Towse, 2017). These stakeholders could then try to maintain their position of power and hinder the wider adoption and implementation of ICOs for artists to fund their projects. Consequently, we believe that artists should rely on ICOs to supplement their existing work processes instead of substituting for the entire existing industry. Further, we propose that cooperation between different institutions in the social network of artists requires a neutral body to coordinate the flow of information. Even if such a central actor in the decentralized network goes against ICO principles of ICOs, an independent institution could counteract intermediaries' fear of losing their current power.

5.2 Limitations and future research

Our research needs to be viewed in light of some limitations. First, we tried to cover artists in all the CCI. However, although our study provides an overarching picture regarding inconsistent regulatory frameworks, it does not account for specific national juridical peculiarities. Thus, studies interested in developing a country-specific framework for effective ICOs should reflect on our general findings in comparison with relevant national and supra-national legislation. Additionally, laws that oversee general data protection and legislation on ICOs are comparatively new and

largely underdeveloped. Given the novel legal environment and expecting a subsequent impact of case law, our findings need to be critically evaluated over time.

Second, the response rate to our interview requests was relatively low. While a high response rate is not as essential in a theoretical sampling approach as in a questionnaire, it is still worth reflecting on the possible reasons for rejection. From a theoretical sampling stance, we purposefully searched for knowledgeable informants. Potential participants who declined interviews primarily did so because they believed they did not have enough experience and knowledge of the technology, and thus could not provide an informed opinion. Essentially, such participants were not part of our targeted group; however, their opinions could be valuable in understanding how to raise awareness of ICOs. Yet, it was beyond this study's scope to analyze and account for respondents being unaware of ICOs.

Third, we identified and linked relevant barriers to using ICO funding. However, our research did not focus on artists' personally motivated individual-level barriers to utilizing ICOs. Therefore, we call for future research to quantitatively examine the possible barriers hindering artists' extended utilization of ICOs.

6 Conclusion

ICOs offer new and promising opportunities for funding artists' projects. Our research discloses eight barriers that hinder artists' utilization of ICOs. The lack of legislative regulations negatively impacts investors' interest, whereas complex and fragmented laws mean authors have to put high organizational effort into implementing ICOs. Further, our findings highlight that investors often move artists' work and projects to more lucrative industries once they have sufficient influence as token holders. Additionally, our results illustrate that consumers' inertia regarding change and limited awareness of ICOs strengthens the position of influential intermediaries in the artists' social network. These intermediaries are proactively positioned against the successful implementation and use of ICOs, because they fear that increased transparency will decrease their power and influence in the creative arts industry. Our research contributes to the literature on cultural finance and funding by showing which barriers impede the implementation of ICOs as a promising form of financing for artistic projects and by outlining possible solutions to overcome them. Our findings highlight that ICOs potentially complement the portfolio of artists' funding sources and show how behavioral financial risks are reduced while at the same time additional financial risks arise from ICOs' coin volatility. The findings contribute new knowledge while also offering interesting avenues for future research.

Appendix

See Table 3.

Table 3 List of interview partners

No	Industry	Work experience	Age	Role/position	Organization type	Country
1	Art	4	29	Artist (ICO funded)	Solo entrepreneur	USA
2	Art	11	37	Artist	Solo entrepreneur	Portugal
3	Art	5	26	Artist	Solo entrepreneur	Spain
4	Art	42	61	Artist	Solo entrepreneur	Germany
5	Art	11	46	Artist	Solo entrepreneur	Mexico
6	Art	24	57	CEO	Company, 10–20 employees	Germany
7	Art	5	29	Manager	Company, 20–50 employees	USA
8	Automotive design	9	27	Artist	Solo entrepreneur	USA
9	Fashion	8	31	Artist	Solo entrepreneur	ENG
10	Fashion	22	57	CEO	Company, 10–20 employees	Argentina
11	Fashion	8	33	Manager	Company, 20–50 employees	USA
12	Music	6	27	Artist	Solo entrepreneur	Belgium
13	Music	12	36	Artist	Solo entrepreneur	USA
14	Music	3	28	Artist	Solo entrepreneur	Germany
15	Music	21	46	Artist	Solo entrepreneur	USA
16	Music	4	24	CEO	Company, less than 10 employees	USA
17	Music	25	55	CEO	Company, 20–50 employees	Germany
18	Photography	8	32	Artist	Solo entrepreneur	Poland
19	Photography	6	36	Artist	Solo entrepreneur	Mexico
20	Photography	4	31	Artist	Solo entrepreneur	Germany
21	Photography	2	24	Artist	Solo entrepreneur	Germany
22	Photography	7	32	Artist	Solo entrepreneur	Germany
23	Photography	16	49	CEO	Company, 10–20 employees	USA
24	Photography	11	42	Manager	Company, 10–20 employees	USA

Table 3 (continued)

No	Industry	Work experience	Age	Role/position	Organization type	Country
25	Photography	21	57	Manager	Company, 20–50 employees	Germany
26	Software development	19	51	CEO and software developer	Company, 10–20 employees	USA
27	Software development	6	35	Manager (Company ICO funded)	Company, 20–50 employees	USA
28	software development	9	42	Manager	Company, 20–50 employees	USA
29	Software development	24	52	Manager	Company, 10–20 employees	United Kingdom
30	Software development	6	33	Manager (Company ICO funded)	Company, 20–50 employees	USA / Singapore
31	Software development	14	44	Manager	Company, 50–100 employees	Romania
32	Software development	11	42	Manager	Company, 20–50 employees	United Kingdom
33	Video and Film	18	42	CEO	Company, less than 10 employees	Slovenia
34	Video and film	14	52	Manager	Company, 10–20 employees	USA
35	Video and film	3	29	Manager	Company, 10–20 employees	United Kingdom

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