

BLOCKCHAIN TECHNOLOGY UNDER THE LENS OF SOCIAL INNOVATION: ILLUSTRATING DIMENSIONS AND ELEMENTS IN A SOCIAL FINTECH

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ABSTRACT

Objective: This article is intended to demonstrate how the use of Blockchain by a Social Fintech can be viewed under the lens of the Social Innovation construct and its elements (dimensions).

Theoretical Framework: The configuration of the elements (dimensions) was based on studies by Tardif and Harrisson (2005), Cloutier (2003) and André and Abreu (2005), according to the model of Souza, Lessa and Lazaro (2019).

Method: The study was descriptive and exploratory. The case study method was applied with content analysis. The initial inductive analyzes made three dimensions for social innovation emerge more clearly: the Character component, Social Innovativeness and Transformation.

Results and Discussion: We came to the conclusion that access to credit using Blockchain technology to fulfill a social demand values territorial specificities through the organization and mobilization of excluded groups and territories, and helps in altering behavior, attitudes or perceptions.

Research Implications: The role of this research for the area of study shows the dimensions of social innovation as a tool for analyzing a social enterprise. Further investigation with more depth in other settings and evaluating the results is essential for this field. New Social Fintechs are continually emerging. Within this environment, economic models are being transformed as they seek a way to break down barriers in the most adversarial models of society by using blockchain technology.

Originality/Value: The relevance of this research is related to the role of improving the concept and practices of social innovation and the development of initiatives geared towards social economic inclusion.

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TECNOLOGIA BLOCKCHAIN SOB AS LENTES DA INOVAÇÃO SOCIAL: ILUSTRANDO DIMENSÕES E ELEMENTOS EM UMA FINTECH SOCIAL

RESUMO

Objetivo: Este artigo pretende demonstrar como o uso do Blockchain por uma Fintech Social pode ser visualizado sob as lentes do construto Inovação Social e seus elementos (dimensões).

Referencial Teórico: A configuração dos elementos (dimensões) foi baseada nos estudos de Tardif e Harrisson (2005), Cloutier (2003) e André e Abreu (2005), conforme modelo de Souza, Lessa e Lazaro (2019).

Método: O estudo foi descritivo e exploratório. Aplicou-se o método de estudo de caso com análise de conteúdo. As análises indutivas iniciais fizeram emergir com mais clareza três dimensões da inovação social: o componente Caráter, Inovatividade Social e Transformação.

Resultados e Discussão: Concluímos que o acesso ao crédito utilizando a tecnologia Blockchain para atender uma demanda social valoriza as especificidades territoriais por meio da organização e mobilização de grupos e territórios excluídos, e auxilia na alteração de comportamentos, atitudes ou percepções.

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Implicações da Pesquisa: O papel desta pesquisa para a área de estudo mostra as dimensões da inovação social como ferramenta de análise de um empreendimento social. Investigações mais aprofundadas em outros ambientes e avaliação dos resultados são essenciais para este campo. Novas Fintechs Sociais estão surgindo continuamente. Neste ambiente, os modelos económicos estão a ser transformados à medida que procuram uma forma de quebrar barreiras nos modelos mais adversários da sociedade, utilizando a tecnologia blockchain.

Originalidade/Valor: A relevância desta investigação está relacionada com o papel da melhoria do conceito e das práticas de inovação social e do desenvolvimento de iniciativas orientadas para a inclusão socioeconómica.

Palavras-chave: Inovação Social, Inovação Local, Transformação Social, Prática Social.

TECNOLOGÍA BLOCKCHAIN A TRAVÉS DEL LENTE DE LA INNOVACIÓN SOCIAL: ILUSTRANDO DIMENSIONES Y ELEMENTOS EN UNA FINTECH SOCIAL

RESUMEN

Objetivo: Este artículo tiene como objetivo demostrar cómo el uso de Blockchain por parte de una Fintech Social puede verse a través de la lente del constructo de Innovación Social y sus elementos (dimensiones).

Marco Teórico: La configuración de los elementos (dimensiones) se basó en estudios de Tardif y Harrisson (2005), Cloutier (2003) y André y Abreu (2005), según el modelo de Souza, Lessa y Lazaro (2019).

Método: El estudio fue descriptivo y exploratorio. Se aplicó el método de estudio de caso con análisis de contenido. Los análisis inductivos iniciales hicieron emerger con mayor claridad tres dimensiones de la innovación social: el componente Carácter, la Innovación Social y la Transformación.

Resultados y Discusión: Concluimos que el acceso al crédito utilizando la tecnología Blockchain para satisfacer una demanda social valora las especificidades territoriales a través de la organización y movilización de grupos y territorios excluidos, y ayuda a cambiar comportamientos, actitudes o percepciones.

Implicaciones de la investigación: El papel de esta investigación para el área de estudio muestra las dimensiones de la innovación social como herramienta para el análisis de una empresa social. Para este campo es esencial realizar más investigaciones en otros entornos y evaluar los resultados. Continuamente surgen nuevas Fintech sociales. En este entorno, los modelos económicos se están transformando mientras buscan una manera de derribar barreras en los modelos más conflictivos de la sociedad, utilizando la tecnología blockchain.

Originalidad/Valor: La relevancia de esta investigación está relacionada con el papel de mejorar el concepto y las prácticas de innovación social y el desarrollo de iniciativas orientadas a la inclusión socioeconómica.

Palabras clave: Innovación Social, Innovación Local, Transformación Social, Práctica Social.

1 INTRODUCTION

Over the last few years, new insights have emerged that view the social demands of groups on the periphery of the market and society as an entrepreneurial opportunity from a business perspective. Social entrepreneurship contains a social mission (non-financial objectives) with a great amount of innovation in terms of introducing new methods, services or products to generate social change because it relates to innovative activities with a social objective either in the private sector, the tertiary sector or in hybrid organizations (Austin et al., 2006; Cukier et al., 2011; Rosolen et al., 2014).

Social enterprises face different potentials for operating in a value chain, ranging from the initial financing in production and in distribution up to the final commercial process. At the beginning of the chain, community banks can be regarded as social companies (Menezes et al., 2019; Rigo, 2015; Silva Junior, 2007) and play a fundamental role in allowing low-income populations have access to credit. In addition to these, "Fintechs" have become a lot more relevant in the banking system as a way to cut through the bureaucracy of traditional financial services, particularly startups or companies that develop fully digital financial products (Ma & Liu, 2017; Fortnum et al., 2017). Within this context, one technology has had a substantial emergence: decentralized sharing through "Blockchain".

Blockchain is an information storage technology that allows valuable assets to be transferred over the Internet through encrypted and decentralized records (Tribes et al., 2018). All transactions are open to all parties involved, and business rules are defined without the possibility of being changed through instruments known as "smart contracts", thereby removing the need to have a central authority to establish trust (for example: the Brazilian Central Bank), typified as a new fully decentralized entrepreneurial architecture (Kypriotaki et al., 2015). A rising field within this new perspective offered by Blockchain technology is its use as a support mechanism for solutions to social issues.

With this in mind, we identified a Social Fintech that seeks to reorganize socially based supply chains, which is the focus of this study. The "Moeda Seeds" Fintech is committed to solving the issue of financial access for the base of the pyramid by creating a social impact on the social conditions where it is implemented, accessing different sources of financing and targeted towards a fairer distribution of earnings for the financed enterprise (REIS et al., 2017). In a prior analysis of the subject, we understand that the access to credit offered by the Moeda Seeds Fintech through Blockchain technology in order to fulfill a social demand values territorial specificities through the organization and mobilization of excluded groups and territories, and helps in altering behavior, attitudes or perceptions.

A number of authors have discussed potential approaches to social entrepreneurship, and we can attempt to analyze them through a social entrepreneurship reference, such as a focus on the entrepreneurial process and entrepreneurs, or by analyzing the process of social innovation (Philips et al., 2015; Agostini et al., 2017).

In this article, we opted for the social innovation approach. This social innovation appears to converge with the concept of a process initiated by various actors in order to respond to social problems, and thus offer solutions or, through disruptions, shifts in social relations to improve the quality and living conditions of the community (CRISES, 2012). As such, the outcomes of social innovation can be manifold, revealed in the form of new institutions, new

social movements, new practices, or differing structures of collaborative work (Souza et al., 2019; Tardif & Harrisson, 2005; André & Abreu, 2006; Caulier-Grice et al., 2012).

The empirical context of the research is anchored in the perspective of companies that claim to be a social venture, based on an economy that uses cryptocurrencies and performs contractual and economic transactions using Blockchain technology.

Hence, this article is intended to demonstrate how the use of Blockchain by a Social Fintech can be viewed under the lens of the Social Innovation construct and its elements (dimensions). The focal company of the study refers to itself as a platform designed to distribute social impact through an ecosystem that is intended to make enterprises economically sustainable.

Accordingly, the provision of credit for supporting enterprises related to cooperatives is seen as a starting point for the development and evolution of a set of interrelated businesses. The relevance of this research is related to the role of improving the concept and practices of social innovation and the development of initiatives geared towards social economic inclusion.

1.1 SOCIAL ENTREPRENEURSHIP

Austin, Stevenson and Wei-Skillern (2006) believed that social entrepreneurship can be viewed as a broad term, as it refers to innovative activities with a social objective, be it in the private or tertiary sector, or in hybrid organizations. The creation of value in social entrepreneurship differs from the creation of value in commercial entrepreneurship. However, both have a blended value (innovation, profit generation and creation of social value), that is, a value with a social, environmental and financial orientation (Emerson, 2003) that can also be interpreted as a value that combines economic, social and environmental factors (Emerson & Bonini, 2013).

Innovation is one of the important issues for social entrepreneurship. New innovative products and services or innovative processes may be necessary to address gaps in the market or the State's absence in resolving persistent social problems. Although innovation can be vital for obtaining social outcomes, there is also an expectation that it will be instrumental in generating income for the social entrepreneur as a result of the self-esteem and recognition of the stakeholders involved (Santos, 2012; Phillips et al., 2015; Bacq & Alt, 2018). The ideas that surface from social entrepreneurship are generally significant and require an appropriate scale for socially entrepreneurial ambition. Small-scale change is as important as its intention - to

generate major impacts, such as the the microfinance movement (nano-credit and microcredit), because the final impact requires scaling, diffusion and sustainability.

1.2 SOCIAL INNOVATION

Although social innovation was still perceived as an emerging field of research without any kind of consensual definition (Bignetti, 2011; Phillips et al., 2015; Nicholls et al., 2015; Andion et al., 2017; Medeiros et al., 2017), the adoption of this concept by organizations such as the Bureau of European Policy Advisors and European Commission (BEPA, 2014) and Organisation for Economic Co-operation and Development (OECD, 2015), as well as the completion of the work by research groups sponsored by the European Community (Avelino et al., 2019; Si-Drive, 2018; Simon et al., 2014), we can accept it as a concept that arrives at this time of the decade nearly cemented in the institutional and scientific environment (Ayob et al., 2016). It can also be understood in a broad way (only as to its objective) or more restricted (considering innovativity in social relations between stakeholders to achieve the objective), or characterized according to the concept of innovation it used to be: disruptive - radical (or transformative), or incremental.

It should be pointed out that, even in Cloutier's (2003) seminal perspective, social innovation is defined as an action that creates social relationships, structures or decision-making methods originating from an individual and then collective action. It is contextual and promotes changes that lead to a better integration of excluded groups. Reinforcing the concept that has been practiced, CRISES (2012) posits a Canadian historical perspective that social innovations promote the well-being of individuals and communities. This is characterized by an implementation process that involves cooperation between a number of stakeholders and is geared towards achieving social change over the long run, which may play a role in the emergence of a new development model (Cloutier, 2003; Tardif & Harrisson, 2005).

Predominantly related to social well-being, social innovation can also be regarded as a novel social practice (including a distinct epistemology according to Hochgerner, 2012) or a new action or device, through stakeholders who seek to satisfy or respond to society's needs and problems in a process initiated by a number of actors to respond to social problems, thus offering solutions or, through disruptions, changes in social relations to improve the quality and living conditions of the community (CRISES, 2012; Howaldt et al., 2015; Agostini et al., 2017; Medeiros et al., 2017).

Within this analytical proposal of how the social innovation process takes place, the use of dimensions, or theoretical constructs of the process, are worthwhile tools, as well as the seminal studies by Cloutier (2003), Tardif and Harrison (2005) and André and Abreu (2006), which had already introduced models that appear to be universal and coherent enough to be used.

So, we began from the classification of social innovation by Cloutier (2003) based on three types: 1) centered on the individual; 2) focused on the environment (territory); and 3) generated in companies. Tardif and Harrison (2005) propose a definition of social innovation with a focus on social transformation, consisting of five dimensions: 1) the novelty and character of innovation; 2) the objective of innovation; 3) the innovation process; 4) relationships between actors and structures; and 5) restrictions on the development of innovation. And also, André and Abreu (2006) who define social innovation as a new and socially recognized response that is designed to generate social change, while addressing three requirements: 1) satisfaction of human needs that are not fulfilled by the market; 2) promoting social inclusion; and 3) training actors in social exclusion processes, triggering a change in relations of power.

Each author makes a brief conceptual discussion of the constructs by offering items that can serve as a basis of the codifications for a content analysis on how social innovation occurs (OEIJA et al., 2019). And although there is currently a diffusion of proposals for dimensions and constructs (Bittencourt & Ronconi, 2016; Correia et al., 2016, Patias et al., 2017; Souza et al., 2019), we believe that the analysis based on the seminal proposals do not lose their value or practicality in qualitative analyzes of how cases of social innovation occur, and that they are actually a valid lens for these studies.

1.3 FINTECHS AND BLOCKCHAIN

The expression "Fintech" (Financial Technology) came to be used widely around 2014 to refer to the influx of technological tools, platforms and ecosystems that make financial products or services more accessible and efficient (MA; LIU, 2017). Fintechs are companies that employ technology to operate outside traditional business models for financial services in order to change the way these services are offered (Fortnum et al., 2017) by using communication, the internet and decentralized information processing (Arner et al., 2016; Chen, 2016; Dapp, 2015, Gabor & Brooks, 2017). The field of study on Fintechs is emerging by defining agents, or proposing categories (Lee & Shin, 2018; Diemers et al., 2015).

These companies have new business models that promise greater flexibility, security, efficiency and opportunities than traditional financial services (Gomber et al., 2017), with the issue of risk a central theme (Jagtiani & John, 2018). Given that Fintechs facilitate a number of possible solutions in the market and that there is a need for more discussion on the risks in this innovative environment, a technology has burst onto the scene with the decentralized sharing of information through a chain of blocks known as "Blockchain" (Dapp, 2015).

Blockchain technology gained prominence in early 2009 through the Bitcoin (BTC) cryptocurrency (Nakamoto, 2008). Blockchain is a decentralized transaction and data management technology originally designed by Satoshi Nakamoto for the Bitcoin cryptocurrency. The definition of Blockchain was synthesized as a distributed database that is shared on a Peer-to-Peer (P2P) network and consists of a sequence of linked blocks, maintaining timestamped transactions that are protected by asymmetric encryption (a cryptographic system that uses key pairs: public keys that can be widely distributed and private keys that are only known by the owner) and verified by the community on the network (Tribis et al., 2018).

As a Distributed Ledger Technology (DLT), Blockchain has the potential to create more of a disruption than any previous technological innovation, primarily in the area of banking services, with a focus on financing the supply chain, loans secured by digital assets, securitization, credit information, digital identity, and others (Jagtiani & John, 2018, Qu et al., 2018).

One of the widely used blockchain-based systems, due to its economical, rapid and less energy-consuming features, is the Stellar Protocol - an open source network for payment methods. Released in mid-2015, Stellar allows digital transactions between different currencies, be they fiduciary or even a crypto asset (cryptocurrency) (Mazières, 2016). Technology therefore provides investors with new options to manage the degree of transparency of their holdings and their business concerns (Malinova & Park, 2017; Kypriotaki et al., 2015) as a possible social innovation (Tilleman et al., 2019).

1.4 THE ACTION OF A SOCIAL FINTECH THROUGH THE LENS OF SOCIAL INNOVATION

Some studies on social innovations have focused on rural social ventures (Butkevičienė, 2009; Neumeier, 2012; Eversole et al., 2014; Franzoni, 2016; Patias et al., 2016; Paula, 2015; Rover, 2017; Sarate, 2019). However, only a few have viewed it from a supply chain and financing perspective. On the other hand, although studies on financial entities acting on social

demands are hardly new, given the concept of social enterprise with reference to Yunus' Grameen Bank (Yunus et al., 2010) and research on social banks (local or community) have an underlying purpose, something that in and of itself is a social innovation (Menezes et al., 2019; Rigo, 2015; Silva Junior, 2007), "Fintechs" and "Social Fintechs" can be perceived as an emerging theme, and the use of Blockchain as a way to guarantee the transparency of information in the value chain by a "Social Fintech" is a gap in research that should be explored.

2 METHODOLOGICAL PROCEDURES

As an emerging theme, a descriptive-exploratory investigation (Collis & Hussey, 2005) is consistent with the area, while the qualitative approach (Flick, 2009) of a case study (Yin, 2015) is pertinent for attempting to better understand an emerging phenomenon. In order to implement the qualitative research, various methods of data collection were used. These included documentary research and access to company information, firsthand observation (with informal conversations) and interview(s). The validity of the constructs for the case study are reinforced through this convergence of evidence, thus allowing for diverse assessments of the same phenomenon (Yin, 2015).

With this in mind, when observing one of the Moeda Seeds Fintech projects in partnership with the Catarina Mina social enterprise, we noted three distinct groups that are involved in the chain of processes. As such, this study not only used the management of the Moeda Seeds Fintech as a unit of analysis, but also the Catarina Mina fashion company and her group of female artisans. The research subjects were thus divided into three groups: 1) managers who are formally connected to the board, management or special programs at the Moeda Seeds Fintech (managers – EG); 2) the social enterprise partner (entrepreneurs – EE); and, 3) individuals that are part of associations, informal groups or cooperatives who reside in the surrounding communities or individual micro-entrepreneurs who provide services to the partner enterprise (beneficiaries – EB).

The data was collected at three different times through exploratory visits, meetings, firsthand non-participatory observations, informal conversations (Spink, 2008) and semistructured interviews (as suggested by Opdenakker, 2006): 1) with the management group, from March 18 to 22, 2019, also considering the period from May 27 to June 2, 2019; 2) in the social enterprise setting from April 22 to 26, 2019, also considering the period from July 18 to 19, 2019; and, 3) in the beneficiaries' environment from April 29 to May 3, 2019, also considering the period from July 16 to 24, 2019. The company and the collective of beneficiaries were readily available for as many required interviews as possible, and our limit was the saturation as proposed by the literature (Cherques, 2009).

The data collection method used in the interviews was semi-structured. Therefore, three different scripts were prepared: 1) an interview script for managers; 2) an interview script for the entrepreneur; and, 3) an interview script for beneficiaries. All the scripts were focused on attempting to identify how the elements (dimensions) were configured based on studies by Tardif and Harrisson (2005), Cloutier (2003) and André and Abreu (2005), according to the model of Souza, Lessa and Lazaro (2019). While a bibliometric review on social innovation has been conducted with identification and different proposals for approaches and analysis, the authors believe that such seminal texts contain consistent material for conducting qualitative analyzes of how the process of social innovation occurs, and thus putting together a "semi-structured" questionnaire.

The triangulation of sources and methods is an important element of qualitative analysis. As such, firsthand non-participatory observation was also used (Roesch, 2017) in order to complement the insights into the research focused on unexpected events in the studied environment. Finally, pertaining to data collection, this study gained access to public documents from the Moeda Seeds Social Fintech, including institutional presentations to partners and the market, information from the Blockchain database that are open to investors and individuals who are interested in learning more about the Fintech's projects, papers with organizational framework models, documents produced by independent consultants on the business model and how its ecosystem works, as well as articles that have been published and shared on platforms that are relevant to the business environment it is included in. The study employed the content analysis of Bardin (2016) to codify the dimensions proposed by Tardif and Harrisson (2005), although the models of Cloutier (2003) and André and Abreu (2006) were also included in accordance with the model of Souza, Lessa and Lazaro (2019).

The data was analyzed throughout the collection process (Creswell, 2010). In this way, the action in the field, already using an initial inductive analysis, allowed three dimensions for social innovation to emerge more clearly: the **Social Character** component that deals with aspects of actors and demands, **Social Innovativity**, which addresses aspects of characteristics and innovation, and **Transformation**, which addresses aspects of changes and processes, as shown in Table 1:

Table 1

Dimensions	Variables	Environment
Social	Actors/	Individuals, the territory, companies, institutions, intermediaries and
Character	stakeholders	the relationship of power.
	Demands	The personal engagement, alternative practices, the well-being and the common good and the results produced.
Social	Social	The labor models, the knowledge economy and social action.
Innovativity	Characteristics	
	Innovation/ Innovativity	Social, organizational, institutional, collective interest, the common good and scale, for improving social well-being.
Transformation	Social	The recomposition or reconstruction of the social bond through the adoption of new practices.
	Economy	The contexts that involve a crisis, disruption and discontinuity, on both a macro and micro scale, in addition to the economic aspects.

Central constructs that emerged for the analysis of social innovation.

Source: Prepared by the authors (2020) based on Tardif and Harrison (2005), Cloutier (2003) and André and Abreu, (2006).

After the configurations of the Social Character, Social Innovation and Transformation dimensions are analyzed, we now come to the final analysis of the studied dimensions.

3 RESULTS ANALYSIS

Moeda Seeds (www.moedaseeds.com) became active in 2017 as a business ecosystem focused on social impact, including the Moeda Seeds Fintech, which has utilized Blockchain technology to provide: 1) a digital wallet (Moeda Account), which charges no maintenance fees and is available at no cost; 2) a cryptocurrency (Moeda MDA) based on the ERC-20 Tokens of the Ethereum network listed on national and international cryptocurrency exchanges; and also, 3) a payment method (MoedaPay), which can be used on marketplace platforms or even through a cell phone or computer, to receive and make payments with fiat currency or cryptocurrencies. In addition to financial products, the Fintech is committed to supporting the production chain of the small-scale farmer with a focus on financing and access to credit. It prioritizes projects that emphasize gender equality and long-term sustainable practices to promote growth and community development. Headquartered in Brazil and with offices in Uruguay, the United States, China and Switzerland, the Fintech is based on the Sustainable Development Goals (SDGs) to serve communities with zero or low access to credit while prioritizing leadership roles for women.

The **Catarina Mina** fashion company (www.catarinamina.com) is a brand from the state of Ceará with 12 years of experience in the market. The company's work is targeted towards producers and concentrates its efforts on questioning, rethinking, reflecting and making

decisions by accounting for a collective. The company's production takes place in three main hubs: Fortaleza (CE), Itaitinga (CE), 40km from the capital and in the district of Aracatiaçu (CE), in the municipality of Sobral (CE), in addition to other communities and municipalities that are involved through a network of artisans who serve the demands of social impact projects by Catarina Mina or have strategic partnerships. The brand also has a presence in the United Kingdom, the United States and France, and has participated in tradeshows in Berlin, Paris and New York. The company has already done some work focused on the private label for brands such as Água de Coco, Osklen, Le Lis Blanc, Daslu, Maria Garcia, Maria Filó, Lita Mortari. In 2014, they decided to publicize their production costs and proposed "an open chat" between consumers, designers, artisans, and company representatives - an informal approach adopted by the company. The goal was to gain a deeper understanding of this world.

The Artesaniaas project, designed to support artisans working in the social businesses of the Catarina Mina company in different regions around the State of Ceará, stemmed from the partnership between the Moeda Seeds Fintech and the Catarina Mina social enterprise. The project's overall goal is to underscore the importance of artesian work in order to achieve the financial autonomy of artisans – primarily women and young people – for regional impact economic development. The Artesaniaas project began in mid-November of 2018 through a letter of intent to create a business methodology focused on the fashion production chain through social impact entrepreneurship.

The partnership involved two distinct development cycles. The first, which is the subject of this study, dealt with a social impact methodology that could be replicated and used in other Moeda Seeds initiatives, together with an experimental collection of handicraft pieces from Ceará called Caiana. The second was done in order to establish marketing strategies through a marketplace for the A and B consumer market classes.

The three dimensions used in the study to identify how a Fintech applies the Blockchain technology tools to promote social innovation were applied in the first cycle of the partnership, and proposed new perspectives and dimensions, given that the literature did not explore research with dimensions geared towards the study of this context.

3.1 SOCIAL CHARACTER

We identified a social network made up of more than 50 female artisans in communities in the Ceará countryside (Itaitinga (CE), Aracati (CE) and Aracatiaçu (CE)) who have worked

for Catarina Mina on other impact projects, and who were absorbed in order to take part in the initiative and, in an experimental way, to produce a collection with approximately 12 artisenal pieces. There were called Caiana, and they used the experiences from Catarina Mina #umaconversasincera and the Fia Oficina de Artesã Project as a methodological reference.

The Artesaniaas project attempted to offer technical advice on how to form groups of artisans and share knowledge with designers in order to prepare the pieces for the international market. These processes are being applied in cycles that are constantly being monitored and enhanced through apprenticeships, allowing artisans to assume more autonomy over their creations and to broaden their markets. The first cycle of the project created a fashion collection designed by Catarina Mina in partnership with Moeda Seeds (Caiana) and the artisans involved in the project. At the second stage, now in an experimental phase, the collection was made available to consumers (test base) through a marketplace (www.artesaniaas.com/). This retail environment would also be based on Blockchain with a focus on the fashion market.

The project also includes access to credit at rates that differ from the traditional market through the use of digital accounts based on Blockchain, which operate through apps for Android phones and over the internet using computer browsers. The goal is to make it easier for artisans to obtain credit, achieve financial independence and to develop the local economy.

The interactions established between the actors and their demands emerge as the actors combine their interests to produce common results. During the visits and interviews, it was noted that interactions took place in a rather spontaneous manner, creating the impression that an entire production chain is built when a demand arises. This underscored the feelings and emotions of the artisans who recognize themselves as local leaders, while the others involved also saw them as their leaders and representatives:

[...] I see myself in an important role for the team because we help each other here a lot and we pass the learning on from one person to another, it is a constant learning process (EB5).

Within the partnership between the Moeda Seeds Fintech and the Catarina Mina social enterprise, relationships could be identified between social, institutional and intermediary actors, which contribute to the blending of identities, values and norms that, in turn, lead to collective learning. It also demonstrates alternatives that can resolve social and economic problems through collective learning processes, which are characterized by the sharing of information and the training of actors. [...] providing options to humanize finances is to invest directly in another person, in another enterprise, and to understand the results and to track them [...] with the same money that you would invest in a savings account, you can invest in a project in Formosa, in coffee, in beer, in handbags, in handicrafts - and this yields much more than a savings account and has an impact on many lives (EG1).

It reflects on the social actors, the established interactions and the personal engagement.

The social actors have faith in the relationship between institutional and intermediary actors to provide the proper conditions for meeting demands. Such demands are fulfilled at the same time that this relationship is strengthened, with feedback, recognition and, consequently, with the emergence of new demands.

[...] it's about self-esteem, girls now feel safer, you know, more able to do things, to know [...] a certain independence, many have already acquired material goods, such as a house, there was a young girl who works these days over there with Celina. This week, I happened to pass in front of her house, it was a two-room mud house, today she made a big house for herself because only her husband was working. So, she couldn't afford to do it and then she moved because she started working, so the two of them work now. One works to support the other, they are working to build something together (EB1).

The solutions offered by the Moeda Seeds Fintech are trials or experiments in the initial phase of their implementation. Through new programs or public policies, the government can promote, support or restrict the emergence of new social or economic practices such as those proposed by the Fintech being studied.

The actors learn how to take on roles individually and collectively and how to adopt attitudes that are different from those related to the mechanisms of the previous development model. As such, more flexible and more democratic participatory systems emerge, structured horizontally and vertically according to the sectors of activity and scale. In addition to being able to open a free digital account, one of the other services offered by Moeda Seeds Fintech as part of the Artesaniass project - designed to fulfill credit and consumption needs - is the issuance of prepaid credit cards that allow beneficiaries, at no additional cost, to have access to spending using credit cards that can be topped-up with, for example, the balance of digital accounts.

The number of female artisans involved in Catarina Mina, regardless of the Artesaniaas project, is scaled according to the demands for new products or through the intervention of public policies that finance entrepreneurship efforts and that seek out models like Catarina Mina's to further broaden the network.

3.2 SOCIAL INNOVATIVITY

There was an introduction of new institutional arrangements seen among the actors, which allowed for new social regulations. These new solutions are designated as attempts or experiments in the initial phase of their implementation. New programs or new public policies can promote, support or restrict the emergence of these new social or economic practices:

[...] we have partner banks in this transition to facilitate this process and even to understand the regulation portion. Everything is subject to regulation in Brazil, so there is no way to be an anarchist and talk about only crypto now, we'll do everything decentralized, but it still doesn't work [...] we are at a time when licenses are needed to operate in an extremely complex system (EG1).

The Moeda Seeds Fintech is not yet fully independent from the traditional rules of the market, nor the government, when it comes to the role of financial institutions. Although it boasts the characteristics of a Fintech, it still encounters situations involving an adaptation to regulations, which are intrinsically linked to social action.

[...] there is the core business, the personnel that handles the projects, and the governance part of government partnerships as well as institutional partnerships, the part of compliance, operation, financial, which are the portion of investment funds, management of these funds and administration of these resources at the global and national level [...] there is also the legal part, there are now five teams throughout the world to run all Moeda operations, to ensure that everything we have done is in accordance with the regulatory side [...] and the heart of a CEO in the midst of all of this (EG1).

The innovation would therefore be in the responses given by the actors to these crises. Social innovations represent new organizational and institutional structures, new ways of doing things, new social practices, new combinations, new approaches and new concepts that lead to achievements or improvements.

[...] we now take this model of ours enhanced with technology, but in addition to this, we also establish a new culture in the communities of artisans [...] it's really great because these artisans, who often didn't even have a bank account, will now get to have a digital bank account and they will receive money directly from the final consumer [...] access to a loan without all the red tape [...] so we also have an innovative culture, coming straight to these women without them having to go through all the steps that other people went through, so I think that's pretty cool too (EE1).

The ventures selected by Moeda Seeds have the opportunity to receive support from technical, business and sustainability areas. Moreover, it adopted the transparency of Blockchain for investors from around the world to invest directly in projects with the promptness of digital tokens, all within a new relationship of trust where people invest in people.

We can also observe the potential for reducing transaction costs, since these Blockchain records are done point-to-point without intermediaries, which in a certain way, based on an analysis of socioeconomic transformations, can be linked to innovation in the economic sphere and innovation in the social sphere, or see how these two spheres influence each other in the context of the crisis of institutions, employment and the social bond. For example, through the Block Explorer tool, we have access to smart contracts that define transactions and make outgoing and incoming portfolios transparent. In other words, where the "money" comes from and where it is being "deposited" between the Moeda Seeds Fintech digital accounts. The consumer who is making the purchase and clicking on their digital account statement is taken directly to the Block Explorer page to view the transaction hash.

Tackling social problems and serving the collective good through initiatives and innovations that guarantee access to employment, consumption and income is now emerging. The Artesaniaas project demonstrated a number of mechanisms related to the degree of formality of alternative practices derived from its form in order to respond to demands and to the vacuum of other issues and increasing social bonds. We would need a more comprehensive analysis of working models that can address emerging issues such as access to credit and income for artisan groups in the Artesaniaas project.

[...] Moeda raises funds, the first of which was through an initial coin offering, known as an ICO, where we issue coins, and investors worldwide can send the funds directly to us [...] as a company, we have a second way to raise funds that is more traditional, so there is both a fund in Luxembourg and an FIDC receivables fund in Brazil, and there is the cryptocurrency investment part directly in the projects through our website [...] so you can invest in the cryptocurrency, and also invest directly in projects by having an account at Moeda (EG1).

Moeda Seeds runs contrary to the hierarchical, technocratic and bureaucratic characteristics of organizations and institutions that are less flexible and less effective at meeting social demands. Some intermediaries tend to disappear with the revamping of working models. These characteristics are revealed when actors from the same context express their perception about the potentials that can emerge under the aspect of innovativity.

[...] I think we may be able to increase our reach in society and technology. I believe it makes us more relevant towards being a technology that is innovative and makes processes more streamlined and more transparent, and the issue of credit that Moeda offers also makes our business more responsive, as well as an articulator for this to reach other places (EE1).

The beneficiaries are also able to describe economic and social action perspectives, since the common good and the collective interest are related to initiatives that involve the collective interest and shared well-being, and which results in an emerging development model.

[...] I think this proposal is really cool because it helps us in that part that you also mentioned the other day, about the difficulty there is with the line of credit. In my case I really [...] because of the treatment I was unable to work, then I had to support myself, I had to have the option, right? And then this is a proposal for improvement, of several things, you know (EB3).

We outlined new configurations that could reflect improvements. Although the Artesaniaas project was the subject studied in the context of the Moeda Seeds Fintech, the company develops other models of social entrepreneurship with new combinations, approaches and concepts that lead to responses to social problems, including notable ventures like the baru beer project, available at https://moedaseeds.com/projects/cooperval-craft-beer/, and the cold brew coffee project, available at https://moedaseeds.com/projects/sustainable-coffee/.

3.3 TRANSFORMATION

The factors that led to the Moeda Seeds Fintech stepping into Catarina Mina's business model, and subsequently proposing the partnership for what would become the Artesaniaas Project, was the need to promote access to a specialized line of credit focused on the fashion production chain, prioritizing sustainable and innovative ventures managed by young people and women, in addition to the social impact to be measured. The changes that were identified in the study force the actors to re-consider their actions and devise new economic and social responses, which could conflict or contradict situations that have already been implemented. Problems are apparent in certain practices. Nevertheless, a process of social change began, which culminated in the reconstruction of social ties through the adoption of new social practices.

[...] a network is also constructed where improvement is possible by seeking more and more sustainable products: organic cotton, reduced violence towards animals and

ultimately, a range of water and material savings. And all this is possible in a network in which when we connect people, so people begin consuming products naturally if they have the option to purchase a product with a fairer price and are familiar with who they are collaborating with, and the difference that product is making in other people's lives is rewarding for those who are working on them as well as for those who are buying them (EG1).

This process of social change starts with the institutional actors at the time they put a business methodology in place for the fashion production chain through social impact entrepreneurship, which is focused on adding value to handicraft work, allowing artisans to achieve their financial independence, particularly women and young people, and ultimately, economic development. The partnership between the Moeda Seeds Fintech and the Catarina Mina social enterprise took place in a fairly turbulent economic period between November and December of 2018. During this time, the Fintech was initiating its partnerships for activities in Brazil. However, even in an economic environment steeped in poor expectations, the 2016-2025 Handicraft Sector Plan, part of the National Culture Plan, contained important data revealing that the estimated number of Brazilians in Brazil who make a living off the production of handicrafts is around eight million people (Brasil, 2017). In light of the potential for production and the creative capacity of the Brazilian craftsperson, it could be argued that the handicraft sector plays an important role in the country's economic development, as well as showing great prospects for growth.

The situations involving crisis, disruptions and discontinuity that were identified during the study force the actors to reconsider their activities and come up with new economic and social responses.

[...] now there are obstacles from growing pains because we need a bigger workforce in order to grow, so I care that our team includes the best people in alignment with the purpose, and I know that this will be difficult to manage over very rapid long-term growth. In other countries we are doing what we can and the obstacles are still in the regulatory portion. We are talking and constructing this open dialog with the system, to incorporate this innovation and also help the system itself. We can get to the other side. The success factors are all because the doors of the universe are wide open. I realize that everyone has been looking at us as a benchmark, because we did a lot in a short period of time [...] (EG1).

The social transformation under this aspect is a source of social innovation, because it can't be implemented without having the development model adopted by socioeconomic actors be modified. We identified a number of results, new institutions, new social movements, new practices and different structures of collaborative work (Souza et al., 2014), noting a set of strategies, concepts, ideas and organizational patterns that expands and strengthens the role of civil society in relation to its social needs that are not addressed in a conventional manner (Correia et al., 2016).

4 FINAL CONSIDERATIONS

The goal of this study was to identify how a Fintech uses Blockchain technology to promote social innovation. Establishing innovation in the economic and social arena is one of the greatest challenges in the context of the crisis at institutions, employment and social ties. The access to credit that the Moeda Seeds Fintech provides through the use of Blockchain technology stands as an alternative to addressing demands that the government, or even civil society, cannot manage in the short term, thereby empowering the organization and mobilizing excluded groups and territories in order to provide social transformation and social impact at a large scale. With this in mind, handicrafts have become even more meaningful because they are perceived as something that characterizes a communal past and conveys feelings of belonging and continuity. The project involving the Fintech's partnership with the social enterprise has featured different views, conferring an innovative architecture to the human condition and making an intriguing correlation between the material transformation and the design of this new social fabric.

We were able to identify the interlocking relationships of identities, values and norms among the actors involved, expressed in a fixed way in roles defined and recognized by the institutions, suggesting that the actors learn as a group, develop new practices and acquire new knowledge and skills, leading to the spread of new social rules and standards. A momentum for social actors was also noted through the technical access offered by the intermediary and institutional actors by providing new ways to build social demand and services for the population. These involved decentralization and coordination between public institutions, social organizations, cooperatives or associations and private companies. We were also able to observe individual and collective learning among the actors. The emergence of new roles and attitudes that are unlike those associated with the mechanisms of the previous development model were revealed as well. With respect to social innovations, we were able to pinpoint configurations, organizational procedures, methods and combinations at the organization that reflect improvements through new social practices, new combinations, new approaches and new concepts. New collaborative ways of thinking, doing and consuming that benefited wellbeing and the common good were likewise observed.

And lastly, we identified social change processes originating from institutional actors through social impact entrepreneurship that were focused on recognizing traditional crafts and having artisans achieve financial independence. We also noted partnership models between social, institutional and intermediary actors who have mapped cultural and regional traditions to prospect for new products or social innovations that reinforce the partnership and leveraging artisanal crafts to achieve financial independence for artisans and the regional economic development of impact.

As its mission clearly demonstrates, the Moeda Seeds Fintech is committed to facilitating access to financing for social projects by offering technical support, expert advisory services, mentoring and Blockchain technology for social ventures. Keeping in mind the dimensions that emerged in the field, along with their theoretical references and methodological pathway, we were able to define the Moeda Seeds Fintech as a Social Fintech that leverages Blockchain instruments to foster social innovation. The role of this research for the area of study shows the dimensions of social innovation as a tool for analyzing a social enterprise.

Further investigation with more depth in other settings and evaluating the results is essential for this field. New Social Fintechs are continually emerging. Within this environment, economic models are being transformed as they seek a way to break down barriers in the most adversarial models of society by using Blockchain technology. In this manner, social innovation could be understood as a process initiated by a variety of different actors who are attempting to modify their interactions and their outcomes in order to empower community interest and the common good.

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