

A Conceptual Framework for Social Currency Innovation: A Service Design Perspective

Ida Telalbasic ^a *

^a Loughborough University London, Institute for Design Innovation: London, UK.

* Corresponding author: i.telalbasic@lboro.ac.uk

ABSTRACT

Early-stage entrepreneurs usually struggle to access different types of services that help to develop their businesses. In recent research, complementary currency systems have been identified as promising alternatives to the deficit of money for accessing goods and services. The purpose of this study is to explore the potential of service design innovation to create more resilient currency systems that enable the exchange of digital credits between social entrepreneurs. The theoretical investigation focuses on the relationships between complementary currency systems as resilient strategies and the sociological interpretations of value exchange. Furthermore, service design thinking and approaches are applied towards social currency innovation. The proposed Conceptual Framework for Social Currency Innovation (CFSCI) highlights the potential of service design in making services more accessible, transparent, and affordable. Service design is relevant in understanding financial transactions, as it helps to perceive exchanges between entrepreneurs as services. Service design research can contribute to a reframing of issues of unaffordable services by conceptualizing service systems that enable skilled individuals to exchange their knowledge through social currencies. These new currencies make transactions between entrepreneurs possible and the service design perspective makes them more meaningful to users.

Keywords: Service Design Innovation; Resilient Strategies; Social Currency Systems; Early-stage Entrepreneurs; Conceptual Framework.

INTRODUCTION

Interest in alternative currency models has been prevalent in recent years, especially, with the calling by the UK government for information about the benefits and risks of digital currencies (Frog Design, 2015). It is commonly known that early-stage entrepreneurs struggle to find funding for different types of services that help develop their businesses. In recent research, complementary currency systems have been identified as a promising alternative to the deficit of money for accessing goods and services. The aim of this study is to explore the potential of service design and complementary currency systems to address the wicked problem of financial exclusion of early-stage entrepreneurs. The research objective is to investigate the potential of applying systemic thinking to develop a more resilient currency system that could provide alternative financial access to a community of entrepreneurs.

This paper provides an overview of key literature that forms a theoretical foundation for developing a conceptual framework. Figure 1 shows the initial theories and concepts used for developing a conceptual framework for currency innovation. The first section introduces

the economic conditions that are the root causes of the socio-economic crisis of 2008 and the on-going impact of the Covid19 pandemic, and how these long-lasting consequences affect entrepreneurs. Complementary currency systems are explored as a resilient strategy to overcome the lack of capital needed for obtaining diverse services for the development of social enterprises. The second part includes a critical evaluation of different sociological interpretations of value exchange within diverse digital networks and/or monetary circuits. The discussions examine, both, how culture shapes currencies, and inherently, how currencies themselves shape different aspects of culture. The third section, in particular, focuses on the discipline of service design and its opportunities to conceptualize alternative currencies, as new service models, that are meaningful to communities of social entrepreneurs. Social innovation, as an approach, underlines the key transformative power of bottom-up approaches in redesigning alternatives to the established order. Finally, based on the presented areas of investigation, a conceptual framework for currency innovation is presented, including its limitations and implications for further research.

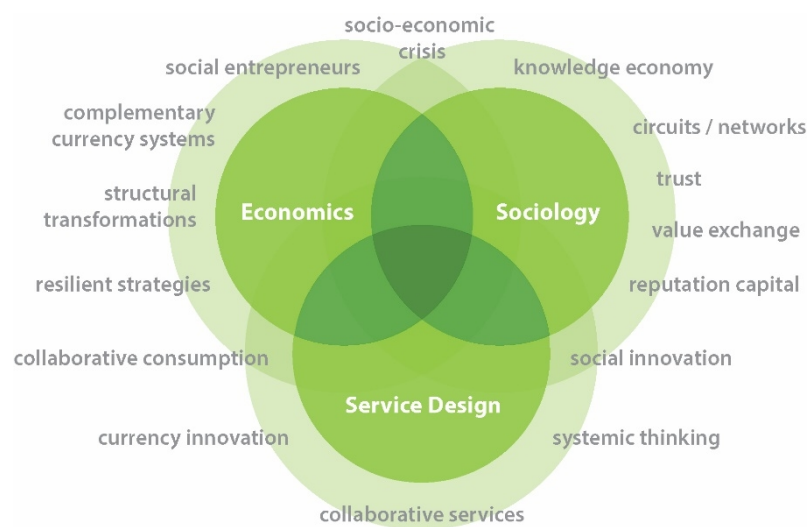


Figure 1. Theoretical Framework for Currency Innovation

1. THE NEED FOR CURRENCY INNOVATION

The notion of 'economic crisis' has been a persistent terminology for a couple of years, arguably collapsing its own name, since the definition of 'crisis' refers to a temporary status of difficulty. By definition, crisis relates to any 'critical point'. However, contemporary society is not only at a 'critical point' but continues to go through a 'critical period'. We are living in a turbulent time, a 'chronic condition of subnormal activity' (Keynes, 1936) where the current limits are recognized as an opportunity to experiment and transform these limits into new opportunities (Manzini, 2015). Similar conditions as the ones resulting from the recent economic crises are not new. Throughout history, there have been many crashes, usually those followed after technological revolutions, such as the Industrial Revolution [1771]; Age of Steam [1829]; Age of Steel, Electricity and Heavy Engineering [1875]; Age of Oil, Automobiles and Mass Production [1908]; and finally the Age of Information and Telecommunications [1971] (Perez, 2002). The current condition is 'a crisis of the real economy' where a more profound structural change is necessary to radically transform the infrastructures and institutions for a new period of growth (Murray 2009). Since the 1970s, the International Monetary Fund has recorded 145 banking crashes, 204 monetary collapses, 72 sovereign debt crisis, showing a total of 48 massive meltdowns (Lietaer et al., 2012). This data shows that each time a monetary system collapses, it must be replaced with a new one.

Unfortunately, the pursued approach does not include a structural resolution to the causes of economic crises but only attempts to temporarily fix them.

Referring to some key definitions of money, it is usually defined as a 'unit of account', 'medium of exchange' and/or 'store of value' (Lietaer et al., 2012). However, this is not what money is, but what money does. This distinction is crucial for the purposes of this research as it shifts the thinking from the primary function of money towards an in-depth exploration of how money is perceived, what it really is and what it can potentially become. Money is an 'agreement' within a community, no matter what the scale, to use something standardized as a medium of exchange (Lietaer and Dunne, 2013). Any agreement in society that does not work in its present state has the potential to be changed. Therefore, the current monetary system, due to numerous crashes illustrates a structural instability, opening up the need for currency innovation (Lietaer and Dunne, 2013).

The context of this research is centred around early-stage entrepreneurs who are starting their own private businesses in the social entrepreneurship arena. The focus lies in understanding how global socio-economic crises had affected them in obtaining services from other individuals or companies in order to set up their own enterprises. Commonly, within start-up communities, early-stage entrepreneurs usually do not have sufficient funds to obtain goods and services that are needed for developing their businesses. They usually rely on funding support from venture capitalists, investment angels, accelerators, incubators. Even someone with a new idea or technology has no institution to turn to (Zider, 1998). Hence, the service design perspective is explored here, i.e. how it can address the issues of financial exclusion. The landscapes of economics, sociology and service design provide key concepts needed to build a conceptual framework for currency innovation that could potentially offer access to capital.

2. RESILIENT STRATEGIES AND COMPLEMENTARY CURRENCY SYSTEMS

Focusing attention to the conditions of the socio-economic crisis and further delving into the concept of crisis, the notion of resilience proves useful. This term mainly comes from the natural sciences and theories of systems, having three main properties: namely, to be able to withstand shock without losing its basic functions; a system can adapt to changing circumstances; and to transform to a different forms of life when the current one is no longer feasible (Carpenter, 2008). Crises also serve as critical reflection points to problems, creating conditions for inevitable social innovations that provide a wide spectrum of 'variations on the theme' that act as alternative options for systems to deal with failure (Taleb, 2012).

Resilience is the capacity of a system to deal with change and continue to develop, using its capacity to withstand shocks. Such a system can be either a forest, a city or an economy. Critical points such as a crisis, trigger innovative thinking in dealing with such disturbances (Moberg and Simonsen, 2014). This approach is valid in understanding global economies and societies, as life-supporting ecosystems, that provide humans with an abundance of goods and services. Shifting our attention from socio-ecological ecosystems towards socio-technical systems and design theory, the concept of 'Cultures of Resilience' is relevant to this study, as it looks at systems and their capacity to cope with stress and failure without collapsing (Manzini and Till, 2015). Looking at these ideas, it becomes possible to observe resilience as a potential strategy for dealing with stress and failures of the current currency system.

Resilience, as a natural strategy, provides inspiration in tackling these complex issues that requires systemic thinking, disruptive and holistic approaches to critically reaching points of stability.

Another approach that implies a growing wave of socio-technical innovation, refers to small and connected actors, experimenting with agile, flexible, context-related, and highly diversified systems (Manzini and Till, 2015). In reference to these concepts, especially in terms of diversity, system structure and internal dynamics, it is necessary to understand four key features of resilient systems, namely: Diversity; Redundancy; Feedbacks; and Continuous Experimentation (Manzini and Till, 2015). These characteristics govern resilient mechanisms, since the multiplicity of autonomous and diverse sub-systems guarantees the emergence of alternative solutions. Such alternatives do not allow the whole system to collapse, in case one of the sub-systems breaks down (Manzini and Till, 2015). To explain these concepts further, diversity ensures multifaceted characteristics of the system by opening possibilities for other substituting solutions. Redundancy provides superfluous elements in case one or some of the sub-components fail to fulfil their primary function and therefore prevent the system from becoming completely unviable. In order for the system to constantly update on potential renovations, feedback provides necessary inputs for learning and continuous experimentation. These concepts illustrate how resilience can provide inspiration for the application and adoption of resilient strategies in addressing the stresses and failures of current currency systems.

Since all monetary crises have a structural common cause, there are alternative solutions to the problems of money in its current state and furthermore, a structural solution is available to solve this problem (Lietaer et al., 2012). The structural solutions mean changing the information links within a system (Lietaer et al., 2012). Since we are currently living in the Information Age, it is absurd to think that our most important information system will not change (Lietaer, 2001). Looking back to the midst of the Great Depression (1929), a couple of currency schemes laid foundations for a structural solution in those economic contractions. One of the most successful examples of complementary currency systems is the WIR Bank in Switzerland. It prevented SMEs from going bankrupt by injecting additional capital. This newly created complementary currency ran in parallel to the Swiss Franc in order to keep money circulating through continued exchange of goods and services (Stodder, 2009). A complementary currency is “an agreement to use something else than legal tender (i.e. national money) as a medium of exchange, with the purpose to link unmet needs with otherwise unused resources” (Lietaer and Hallsmith, 2006). The use of complementary currencies increases in time of economic crisis and decreases in times of economic booms (Defila, 1994). The previous example describes a structural solution, highlighting that parallel currency systems could structurally diversify existing ones. In this case, diversity, as a key feature of resilience, underpins how complementary currency systems could provide structural diversity within monetary systems.

It is also possible to measure sustainability with a single metric unit, i.e. the optimal balance between two essential and complementary properties: ‘efficiency’ and ‘resilience’. Connecting these theories to the previous examples from biological resilience, it becomes apparent that when a natural ecosystem has high diversity, the result is high inter-connectivity. In the complex flow network theories, when diversity is reduced, it increases efficiency. But when efficiency is reduced, the diversity ensures more resilience (Defila, 1994). This principle of balance can be translated to money. Complementary currencies

should circulate in parallel to conventional money, in an economy where they can structurally diversify the medium of exchange. Complementary currencies such as local currencies, time currencies, local exchange systems play a crucial role in the current wave of social innovation as mechanisms for territorial or social cohesion (Kalinowski, n.d.). There are many advantages to using complementary currency systems. Some of these include their potential to enhance economic efficiency while promoting new forms of entrepreneurship and organizing economic activity in areas suffering from the existence of a unique monetary instrument (Lang, 1994). They also create and distribute social capital, developing trust-based relationships, promoting co-operation and strengthening existing networks (North, 2000). They also support community development such as relocation of economic activity in the perspective of self-sustainability (Pacione, 1997). Finally, they can also organize emerging forms of non-profit activity and public welfare, based on self-help and mutual assistance (Douthwaite and Wagman, 1999).

The emergence of numerous complementary currency systems around the world alludes to how alternative currencies are challenging the way money is designed, controlled and maintained (Telalbasic, 2017a). Resilience in currency systems has been explored by looking at complementary currency systems as a potential strategy for tackling the lack of access to financial capital. Complementary currency systems act as systemic structural components and provide structural solutions to financial exclusion (Lietaer et al., 2012). They provide the ability to pay short-term obligations in times of economic crisis and therefore, can be seen as a tool for establishing new service systems. They can empower people, increasing social ties, and fostering local knowledge and expertise (Dodd, 2014). The following section will look at the diverse interpretation of money from a sociological point of view in order to better understand value exchange and the implications of what money is and could potentially become.

3. SOCIOLOGICAL INTERPRETATIONS OF VALUE EXCHANGE

In order to explore a potential framework for social currency innovation, it is necessary to focus on some general definitions and perspectives of money. Key concepts and definitions of money are presented in Figure 2 and will serve as a chronological starting point in the exploration of how money is perceived culturally.

Key Concepts	Definitions	Author(s), Date
2 Distinct Typologies of Money	General-purpose money circulates in a market society and breaks away from cultural barriers of exchange	Polanyi et al., 1957
	Special-purpose money circulates in a non-market society that serve certain social rituals (eg. matrimonial, political or religious payments, as well as representations of wealth)	
Symbolism of Money	Superalternate values are those of higher standing order eg. master	Gregory, 1997
	Subalternate values of money consider the lower hierarchical components eg. slave	
Cultural Significance of Money	Culture shapes money and money shapes culture	Schumpeter, 1999
Being Positioned by the Circulation of Money	Shaped by our identities and social status Plurastic money cultures	Allen & Pryke, 1999
Digital Money as Traceable Information	Personal credit and power shift (control of production and management of money through online transactions)	Hart, 2001
Money as an Mediator in Exchange Relationships	Extremely strong social bonds	Simmel, 2004
Circuits as Systems Self-generated by Users	Sense of belonging to identified community	Zelizer, 2004
Money as an Abstract Thing Serving Social Relations	Money and religion Representation of practical need and self-interest	Marx, 2005
3 Versions for Analysis of Money	Weak version is a micro viewing of money from the perspective of users, not producers of money	Zelizer, 2012
	Moderate version refers to social practices that modify money by restricting its use	
	Strong version is the creation of entirely new currencies (virtual and local currencies, Facebook credits, Bitcoins, etc.)	
Money as a Social Process	Consists of social relations and shared understanding where culture is an integral part to its <i>modus operandi</i>	Dodd, 2014
Money as a Social Technology	Can be designed and implemented to achieve social, economic, and/or environmental objectives	New Economics Foundation, 2015

Figure 2. Key concepts and definitions of money (Author)

Examining how culture shapes money, enables us to focus on the practices and meanings that shape money without reducing it to economic functions. This approach demands that we see it as an inherently social process, not a thing consisting of social relations and shared understandings where culture is an integral part to its *modus operandi* (Dodd, 2014). Money can also be viewed as a social technology that can be designed and implemented to achieve social, economic and/or environmental objectives (New Economics Foundation, 2015). In this instance, culture does invariably shape what money has come to be. Comparing these views to theories of culture shaping money and money shaping culture (Schumpeter, 1991), the cultural significance of money becomes apparent. These perspectives open up a new possibility of re-thinking money according to specific contemporary needs, where money as a social process can be adjusted to serve the necessary processes and financial transactions between different parties.

On the other hand, looking at how money shapes culture, classical social thought draws attention to money as a tool for bringing people together. However, shifting attention to

some negative aspects of what money is and does, it is usually seen as a corrupting force through social relations that are based on quantifiable accounts and not qualitative features (Zelizer, 2012). Money is an abstract representation of practical need and self-interest, and people's faith in money as a reflection of their objectified relations with one another (Marx, 1939). Some other properties of money shaping culture, point to its qualities as a mediator in the exchange relationships that creates extremely strong social bonds amongst members of a currency system (Simmel, 1978). This view shows how money can be seen as a tool that can have the power to change social meanings within and influence actual behaviours of people within them. Another relevant capability of money in transforming cultural life is the presence of pluralistic money cultures and the way people are positioned by the circulation of it (Allen and Pryke, 1999). This shows how the experience of money is always multifold and is shaped by our identities and referential level of attachment to it.

It is interesting to note another three sociological interpretations of value exchange, namely: typologies of money, symbolism of money, and several versions used for the analysis of money itself. The first interpretation includes general-purpose money that circulates in a market society and breaks away from any cultural barriers of exchange. In contrast to this type, special-purpose money is one that usually circulates in a non-market society that serves certain rituals (Polanyi et al., 1957). These distinctions clearly define money's capability to have a unique function in order to serve specific demands within social interactions. Another reflection on the symbolism of money distinguishes 'superalternate' and 'subalternate' values (Gregory, 1997). 'Superalternate' values are those of higher standing order, e.g. a master, while the 'subalternate' considers lower hierarchical components, such as e.g. a slave. These differences demonstrate how money contains symbolic meaning that is connected to power relationships and how social status can determine the types of money being used for certain activities. Furthermore, three versions for analysis of money, namely: *weak*, *moderate* and *strong* versions provide additional insights on the interpretations of money (Zelizer, 2012). The weak version refers to a micro view of money from the perspective of users, not producers of money. The moderate version refers to social practices that modify money by restricting its use or modifying its appearance. The third strong version is most significant for this study, as it refers to the creation of entirely new currencies (virtual monies, local currencies, Facebook credits, Bitcoins, etc.).

The final considerations for the different types of interpretation of value exchange are given in light of understanding digital money and circuits. Digital money as traceable information illustrates two important aspects: personal credit and a power shift in the control of production and management of money through online transactions (Hart, 2001). Personal digital credit, as opposed to physical money, introduces the notion of traceability which carries information about the users. This highlights money's property of no longer being considered as an anonymous medium of exchange (Hart, 2001). Furthermore, with a lack of material flow of money, the created value circulates within certain accounting systems, showing how power is being transferred from producers of money to users themselves (Hart, 2001). Circuits are self-generated models that keep account of all activities and created relations between individuals within a circuit (Zelizer, 2004). They are useful in keeping track of a shared understanding of the meaning of transactions, e.g. within investment clubs, mutual aid associations, etc. (Zelizer, 2012). Additionally, these types of circuits contribute to a sense of belonging to an identified community that generate their

own specific form of internal and cultural sociality. The establishment and management of local currencies create individual circuits of interpersonal relations. The aims of such activities range from forging local ties to building alternatives to capitalism (Zelizer, 2012). Interestingly, circuits do not appear to be self-reliant communities since their members are often part of other circuits simultaneously (Zelizer, 2012). This demonstrates the potential of having multiple currencies that serve different purposes and are based around a shared understanding and creation of internal cultural meanings.

This overview of typologies, symbolism and versions of money provides crucial insights into the different manifestations of money and how it is perceived in diverse value exchange mechanisms. Interestingly, the changing nature of money opens up new perspectives on money's capacity to be a social process or technology, a mediator in the exchange relationships, to name but a few. This feature points to multifold characteristics of money, both, as a fixed and fluid means of exchange. Furthermore, the digital traceability of money, with the diffusion of financial technology opens up new debates about privacy, governance and online identity. In the next section, service design approaches are explored in order to examine how the discipline can contribute in designing new credit systems that respond to the needs of accessing good and services, taking into account the sociological implications discussed until now.

4. SERVICE DESIGN APPROACHES TOWARDS SOCIAL INNOVATION

Looking more closely from the service design perspective, as part of the core argument positioned in this paper, it is important to highlight the distinctions between 'designing for services', as opposed to 'design of services' (Meroni and Sangiorgi, 2011). This key proposition captures the transformative process where design between people is not the final result in itself, but rather an 'action platform' that enables a multiplicity of possible interactions. Service Design responds to the changing paradigms from product to services, i.e. from tangible to intangible properties based on value co-creation and systemic change principles. In this respect, researching service design approaches to tackling socio-economic issues is significant for the discussion here. Services can be defined as a regulated form of co-production of benefits between two or more parties, aiming to solve a certain problem or need through the application of knowledge and skills (Meroni and Sangiorgi, 2011). Services are also special artifacts that are co-created and co-experiences with, by and among users (Meroni and Sangiorgi, 2011). Therefore, a service interaction is consequently a form of social interaction. Services attempt to create new socio-economic value in society and are therefore essential in a knowledge-driven economy (The Copenhagen Institute of Interaction Design, read in Stickdorn and Schneider, 2010).

Furthermore, the Service-Dominant Logic (SDL) is significant, as it concerns the development of a service ecosystem perspective, including institutions that govern the mechanisms within such ecosystems (Vargo and Lusch, 2016). The ecosystem perspective is relevant to our understanding of currency systems and value creation within them. The key concept of the SDL is that all exchanges can be viewed as services, where the reciprocal exchange of resources benefits all actors involved (Vargo and Lusch, 2008). This notion is key for this study, as it brings attention to the interactions and mutual benefits of exchange rather than focusing on the means of exchange, such as goods. In order for value to be created, actors exchange services in an interdependent and reciprocal manner. Therefore,

value co-creation occurs in networks in which resources are exchanged amongst multiple stakeholders (Maglio et al., 2009).

In addition to the changing paradigms of SDL, the role of the designer extends into two creative and practical ways: either to improve existing services or to innovate new ones (Livework, read in Stickdorn and Schneider, 2010). Design approaches towards service innovation include the exploration of new collaborative projects and service models. Exploring new collaborative service models refers to innovative usages of social technology and emergence of community services and initiatives (Meroni and Sangiorgi, 2011). Innovation involves the capacity to reconnect existing and distributed resources in different ways and the designer's role is to identify, connect and motivate different actors to co-create innovative solutions (Meroni and Sangiorgi, 2011). Designing collaborative services are accessed by a wide audience and act as enabling systems, creating meaningful bonds between individuals who are sharing, exchanging and participating in co-creation of commonly recognized values (Jégou and Manzini, 2008). Collaborative projects and exchange of services through peer-to-peer platforms, in turn, build communities that increasingly diffuse new systems of value that are altruistic, resourceful and based on intrinsic reward (Toffler, 1980). Collaborative consumption sets the foundation for these types of interactions and network-based service models to exist and comprises of three distinct systems (Table 1).

Table 1. Network-based service models based on Collaborative Consumption systems (Botsman and Rogers, 2010)

Collaborative Consumption systems	Examples
<i>Product-service-systems</i>	<ul style="list-style-type: none"> • ride-sharing (car/taxi/bike) • rentals (film, toys, accessories)
<i>Redistribution markets</i>	<ul style="list-style-type: none"> • big market places such as swap sites of a similar value
<i>Collaborative lifestyles</i>	<ul style="list-style-type: none"> • co-working spaces • bartering • crowd-funding • social currencies

Even though the examples of collaborative consumption can immensely vary in scale, maturity, and purpose, they are all based on an essential set of common principles: critical mass; idling capacity; belief in the commons; and trust between strangers (Botsman and Rogers, 2010). The last principle is key, especially since trust is linked to reputational scoring. If people are to share and collaborate, there needs to be a sufficient trust mechanism in place and most presumably, trust will become the new currency (Botsman, 2012). The new era of trust will be measured by a so-called 'reputation capital', defined as the sum value of online and offline behaviours across communities where someone's reputation capital is equivalent to how much a certain community trusts that individual. The worth of that reputation includes their intentions, capabilities, and values, and hence their 'reputation

trail' will reflect someone's behaviour across multiple online networks. New trust networks and reputation capital will transform the way people think about wealth, markets, power and personal identity in the 21st century (Botsman, 2012). However, trust cannot be designed. Yet design can create systems that can establish trust mechanisms, fostered through face-to-face meetings, regular dialogues and personalized interactions that can build long-lasting trust (Jégou and Manzini, 2008). The role of design includes service design research that can bring people-centred perspectives to service development and bring together communities using design-led tools to act upon issues (Thackara, 2007).

Contributing further to the discussions on the leading concepts in the 21st century, it is necessary to also address collaborative design approaches towards social innovation. We shall first establish what innovation means in contemporary society and how it is relevant to the field of service design. The origin of the concept of innovation comes from the Greek word 'kainotomia'(new), being defined by ancient philosophers and writers as introducing change into the established order (Godin, 2015). In design literature today, social innovation is presented by many as a relatively new idea. It came to mean alternatives of established solutions to social problems or needs, namely to technological innovation and State or government-supported social reform (Godin, 2012). However, social innovation was not always welcomed throughout history, as it was easily associated with socialism and social reforms. The social innovators, as some called the social reformers in the nineteenth century, were accused of overthrowing the established order (Godin, 2012). Even plans of innovations such as socialism, cooperative association or attacks against money and banks (financial nihilism) were considered to have a destructive power to institutions, on both a social and personal level (Smith, 1883).

In contrast, the following overview gives several meanings that were exclusively positive in relation to how social innovation was interpreted as an alternative ideology, as early as, 'social change' [1741]; 'social economy' [1767]; 'social invention' [1782], 'social capital' [1800], 'social technology' [1863] (Godin, 2012). A linear evolution of the term 'social innovation' originates from socialism and has been resurrected in the 21st century to mean anything related to social matters or the adoption of new behaviour (Godin, 2012). Figure 3 illustrates how the category has evolved over time, originating as a socialist construct that transformed into notions of social reform and finally to signify any alternative solutions to the existing practices.

Socialism → Social Reform → Alternative

Figure 3. Uses of Social Innovation as a category over time (Godin, 2012).

Social innovation can also be defined as the way in which individuals or communities bring about changes in societies by acting to solve problems in unique ways and generate new opportunities (Jégou and Manzini, 2008). Innovation typically emerges from bottom-up rather than top-down processes and they tend to be more driven by the changes in behavior rather than changes in technology (Jégou and Manzini, 2008). Apparently, social innovation is no longer predominantly seen as subversive of the social order, but simply opposed to the traditional ways of doing things (Godin, 2012). In order for change to happen, it needs the right conditions for any social innovation to emerge and it is crucial to find appropriate measures to design, enhance or nudge them. These conditions are:

- Efficiency – any new approach, however well designed, may appear quite inefficient compared to the subtle interdependencies of a real social or economic system;
- Interests – to many people, the risk of change will appear great compared to the benefits of continuity;
- Minds – the mindset of any social system is based on assumptions, values, and norms from those societies where habits and routine are embedded within;
- Relationships – networks of favours and debts usually make things happen. However, they do not automatically aspire to incremental improvements or radical transformations (Mulgan et al., 2007).

These conditions point to a few key aspects in terms of how social innovation can occur. It is about designing new ideas that meet social needs and emphasize empowerment as an act of enabling people to solve their own problems, rather than waiting for the state to solve problems for them (Mulgan et al., 2007). It is also about designing new products, services, and models that simultaneously meet social needs and create new social relationships or collaborations (Murray et al., 2010). In the exploration of service design approaches, a few key concepts remain. The role of service design is to improve existing services that do not meet the requirements of its users. In this case, if current currency systems do not enable early-stage entrepreneurs to access goods and services, then there is a need for currency innovation. More specifically, there is a need for service design to meet those needs by injecting social capital through distributed networks. Services are primarily a result of a mutual benefit between two or more actors involved in a specific interaction. Therefore, the benefits can be solved through the application of knowledge and skills to social matters or introduction and adoption of a new behaviour or practice. In this case, service design tools, methods, and approaches are viable in solving these wicked problems by redesigning new social currencies based on digital credits. If newly designed exchanges can be viewed as services, then those exchanges have the potential to be mutually beneficial. The reciprocal application of resources can benefit all actors involved through a common co-creation of value within that network. Additionally, a collaborative mindset sets the stage for collaborative services to existing through product-service systems (PSS). This PSS are based on trust and create reputation capital through elicited exchanges. Hypothetically, service design has the potential to create systems established on trust mechanisms. The role of design is to strategically co-create with people in devising plans of creative action to engage communities in tackling issues such as the redesigning complementary currency systems. Next, we shall look at how the presented theoretical framework has led to the development of a conceptual framework for currency innovation, more specifically, a social currency for early-stage entrepreneurs.

5. CONCEPTUAL FRAMEWORK FOR SOCIAL CURRENCY INNOVATION (CFSCI)

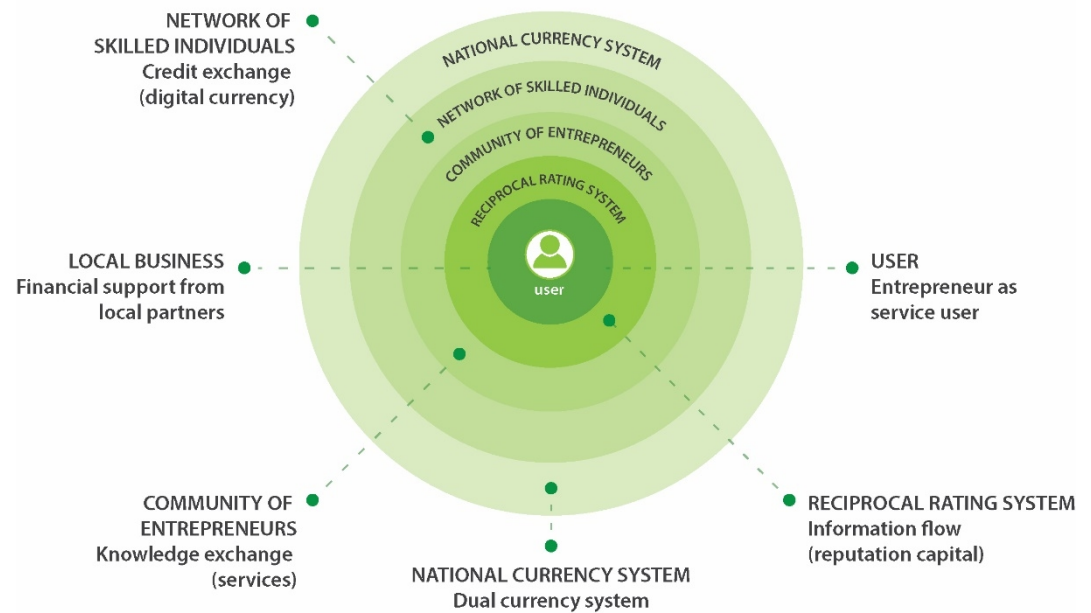


Figure 4. Conceptual Framework for Social Currency Innovation (CFSCI)

Figure 4 illustrates a conceptual framework for social currency innovation within crises-driven economies. It shows the entrepreneur as a service user of a complementary currency system that is designed to support early-stage entrepreneurs in obtaining services from each other. The exchange of digital credits could be regulated through the reciprocal rating system that manages the information flow allowing members to build their reputation through completed exchanges. This reputation capital would be visible to all members of the online community. Digital credits within this system cannot be sold or converted into other currencies. Therefore, since reputation cannot be bought, this conceptual framework for a service system could have the power of a currency. Establishing trust mechanisms, either as a reputation capital or through the co-creation of value within certain communities of entrepreneurs is crucial in a knowledge economy. The presented conceptual framework could potentially build a network of entrepreneurs that is built on trust, reliability, transparency of transactions and a reciprocal evaluation mechanism.

It is important to highlight how the conceptual framework envisions a service system as being part of an existing local currency system (outer circle). This is because its aim is not to substitute local/national currencies but to be complementary to regular fiat currencies. The dual currency service system would enable users who are part of a network of skilled individuals, to offer their services to other users who are part of the same social currency service system. The digital credits that are assigned to each joining member could enable them to exchange services with other members using their personal idle capacities. This capacity could be exchanged, such as skills and competencies, with prior self-evaluation and negotiation with other users who are in need of that specific knowledge, know-how, experience or expertise. In this sense, the community could support the transformation of these capacities into collaboration opportunities through the means of a parallel currency.

Furthermore, the service system could have the potential to be supported by local businesses that could become part of the network. Their role could incorporate a complementary currency model as an additional currency that is accepted for transactions. In this sense the

social currency model could foster business development that contributes to social and territorial cohesion.

6. DISCUSSION OF CFSCI IN RELATION TO THE THEORETICAL FRAMEWORK

Here, reflections are provided on the Conceptual Framework for Social Currency Innovation (CFSCI) in relation to the main theories and concepts presented in the theoretical framework. Alternative monetary systems do offer resistance to financial exclusion and the CFSCI would structurally diversify the media of exchange within networks of entrepreneurs. In this way, access to digital credits enables service exchanges and fosters financial inclusion and collaboration opportunities. As stated previously, money is a mediator in the exchange relationships, and the CFSCI would encourage collaborative behaviours by stimulating the use of existing resources, such as personal capacities, time, etc. In this sense, the service system would act as an empowering tool where the currency would be a relationship catalyst.

Today's collaborative mindset points to the presence of the commons where social status is less significant in relation to one's reputation capital. Previously, one was positioned by the circulation of money, whereby, identities were determined by quantifiable qualities. Therefore, the CFSCI could act as an enabling platform where decentralized exchange eliminates inequality of resources, regardless of gender, race and social status. Furthermore, special-purpose currencies, such as conceptual social currencies are not 'superalternate' as they do not aim to be the dominant currency but a parallel and strong version in all its entirety. Since circuits are systems self-generated by users, the CFSCI could, in fact, become a resilient system that provides alternative access to resources. Finally, since digital money is traceable, the CFSCI would ensure transparency as a way to build a reputation within the network and foster collaboration opportunities amongst entrepreneurs.

7. CONCLUSION

The aim of this study was to provoke a different way of thinking about money and also to question the notion of how we value things, people and knowledge. It is apparent that the traditional function of money has the potential to be redesigned in order to serve different purposes. The reconceptualization of how money is perceived, what it is or could become has been significant, especially in relation to service design. The study has shown how the discipline of service design can tackle issues of financial exclusion amongst early-stage entrepreneurs. The role of design has been to identify non-monetary exchanges as services and highlight how they could be improved by adopting a service design thinking approach towards social innovation. The resulting conceptual framework for social currency innovation allows individuals, who want to offer their knowledge and to build their reputation by providing their services or donating their digital credits, to help other members. The conceptual framework highlights the potential of service design to redesign services that enable skilled individuals to exchange their knowledge, competencies, and skills through social currencies.

The CFSCI is a result of applying Service Design Thinking in addressing economic challenges. Service Design, as a strategic and human-centred discipline with a systemic approach to innovation, addresses these economic conditions by designing new currency systems to run

in parallel to existing avenues of funding. This approach highlights the capability of design to conceptualize alternative currency systems, customized according to users' own needs. Part of the role of design is the cultural dimension and its capacity to produce meanings as well as solutions. In this sense, the CFSCI could create both new meanings, in terms of credit exchange and reputation, as well as offer a service system, capable of addressing the needs of an entrepreneurial community. The meaning of money has been re-conceptualized to create alternative service models, based on newly created social meanings in the knowledge economy. Collaborative services operate on multi-fold reciprocity of co-created benefits through individual participation and contribution. In order for such collaborative networks to work, peer-to-peer collaboration relies on trust and contributed time, effort, organization and flexibility. This principle reinforces collaboration and builds strong community networks that are based on community-interest, empowerment, and collaborative support measures. Therefore, the proposed framework is an example of systemic thinking and innovation through design. The approach of designing complementary currency services for entrepreneurs demonstrates the power of design to do problem setting, problem framing and problem-solving simultaneously.

7.1. Limitations and further research

However, the limitations and implications of the conceptual framework also need to be addressed. The risk with these types of service systems is that in order for them to work, there needs to be a critical mass to enable enough variety of skills within the network. In this sense, it is difficult to determine the exact number of members needed to provide enough professional diversity, while still maintaining trust and transparency of interactions. However, the model must not substitute regular exchange of services offered via fiat currencies. It must only act as a complementary system that addresses the lack of capital for early-stage entrepreneurs by providing alternative means within defined regulations. More importantly, the validity of the framework would need to be tested through a pilot study in contexts most affected by the crises and where service exchanges are limited. Different case studies could aid the understanding of what features of the framework are feasible and more specifically, what the replication and scaling opportunities could be.

Further research is necessary to clarify issues related to collaborative consumption models that usually fall within the grey zone in terms of legal implications. Furthermore, the integration of such models into the local economy could be further enhanced by establishing government regulations. Such regulations would hopefully not consider these systems as a threat to the national economy but on the contrary, as positive support for local entrepreneurs and businesses.

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