

Complementary currency design as resilient service systems: Transforming limits into strategic innovation opportunities

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Abstract

The socio-economic crisis of 2008 persists in creating a need for structural change and radical transformation by applying systemic thinking and holistic approaches to design solutions. This paper questions those limits with regards to economic failures of income distribution among social entrepreneurs in co-working spaces. The argument focuses on exploring the potential for introducing alternative solutions where design can cut across traditional models and lead to economic transformations through new service models. Complementary currency systems structurally diversify monetary eco-systems and act as a mechanism for territorial and social cohesion. Strategic design is summoned here to focus on a new currency through the development of an integrated and resilient service system, a model for activating idle capabilities of community members into innovative collaboration opportunities. On-field research encompassing interviews, survey and persona design methods have been conducted with members of the Impact HUB social business network. The analysis of existing collaborative service models serves as an enabling action platform for service innovation to take place, driven by bottom-up behaviour changes towards social innovation. This research sets the stage to open up possibilities for empowering professionals and capacity building approaches to be implemented in emerging collaborative economies.

Keywords: complementary currency systems, strategic design, service system design, resilient strategy.

Introduction to the contemporary economic challenges

This paper intends to introduce the contemporary economic failures of income distribution among social entrepreneurs in co-working spaces. The aim of this research is to present potential resilient strategies for tackling the economic crisis through design research conducted in a global co-working social enterprise. It explores the connection between these economic challenges, collaborative service models and designing new economic paradigms. The general aims of this research include the design of a mechanism that ensures the exchange of services between community members. This potential service system needs to ensure trust among members through transparent peer-to-peer transactions and to incorporate a reciprocal evaluation of professional skills in a network for business development.

If we talk about the global recession of 2008, it might seem an event of the past. Even though the word “crisis” indicates a temporary socio-economic failure or brief incapability of normal functioning, the contemporary society continues to face a period of persistent criticality. According to Murray (2009, p. 5), the economic crisis is “a crisis of the real economy, of an old form of production and consumption” and Schumpeter foresaw

what is needed is “a program of more profound structural change, of a radical transformation of infrastructures and institutions that will be the precondition for a new, qualitatively different period of growth”. This chronic condition is especially reflected amongst young entrepreneurs who, due to economic busts, struggle with scarcity of resources and a deficit of money as an essential tool for the provision of goods and services.

Originating from natural sciences, the term “resilience”, as a natural strategy, provides inspiration in tackling complex issues that require systemic thinking, disruptive and holistic approaches to critically reaching points of stability. Shifting the attention from social-ecological ecosystems towards socio-technical systems and design theory, Manzini gives a definition of resilience as “the system’s capacity to cope with stress and failure without collapsing and, more importantly, learning from the experience” (Manzini and Till, 2015, p. 11). Looking at these ideas, it is possible to further observe resilience as a potential strategy for dealing with the stress and failures of the present monetary system. Diversity, as one of the key features of resilient systems, is characterized through a multiplicity of autonomous and diverse sub-systems that guarantees the emergence of alternative solutions that do not allow the whole system to collapse (Manzini and Till, 2015).

Complementary currencies as resilient systems

Structural diversity through complementary currency systems seems one promising proposal of alternative monetary eco-systems that can act as a mechanism for territorial and social cohesion. "A complementary currency is an agreement to use something else other 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, p. 2). Frog's tech trends (Tay, 2015) highlight how:

Digital currencies, including crypto-currencies, will thrive. Governments are exploring frameworks and systems to regulate and manage digital currencies, which will make their ubiquity in our everyday financial vernacular more profound. The UK government is calling for information about the benefits and risks of digital currencies. We can expect digital currencies to be used interchangeably with legal tender, giving birth to a frictionless, agile, universal payment system that will expand beyond the current banking ecosystem.

One of the most successful examples of complementary currency systems is "WIR Bank" in Switzerland. During the Great Depression (1929), it prevented SMEs from going bankrupt by injecting additional capital (newly created complementary currency to run in parallel to the Swiss Franc) in order to keep money circulating in the economy through continued exchange of goods and services. This example shows how "monetary eco-systems" (Lietaer *et al.*, 2012) can provide structural solutions by applying systemic bio-mimicry and how parallel currencies can structurally diversify the current monetary monopoly.

Complementary currency systems can provide strategies to resist financial exclusion by enhancing economic efficiency while promoting new forms of entrepreneurship and organizing economic activity in areas suffering from existence of a unique monetary instrument (Lang, 1994). They can also create and distribute social capital, developing trust-based relationships, promoting co-operation and strengthening existing networks (North, 2000). These types of decentralized systems also challenge the way money is regularly managed and produced by States and banks, thus shaping a new economic paradigm.

Service system design as a resilient strategy

Service design sets the disciplinary framework of this research where the aim is to explore the potentials of this discipline, especially in terms of fostering collaborative participation and consumption towards design-driven innovation. Service design models can serve as action platforms in emerging collaborative economies to re-design the interconnections between technology and people and its correlations with social innovation. The challenges of today's information-based economy highlight a new intersection of disciplines that can support new dynamics of consumption (Friedman and Stolterman, 2015). Therefore, designing service systems, as new value exchange mech-

anisms, can support these challenges through disruptive user-centred innovation approaches.

Designing resilience through alternative and parallel service systems can also be viewed as a social innovation strategy to create new socio-economic value in society. Social innovation has been presented by many, as a relatively new idea, which "came to mean alternatives to "established" solutions, to social problems or needs, namely to technological innovation and State or government-supported social reform" (Godin, 2012, p. 6). Social innovation is generating small, local initiatives that have the potential to be scaled-up, replicated and integrated within larger programs to bring about large-scale sustainable changes. For this to happen, new design competences are needed to provide visions, strategies and co-design tools in order to move ideas to concrete proposals and viable projects. This new design capability, as a whole, can be defined as design for social innovation.

Collaborative services as strategic design

The new digital era is embracing a design thinking and human-centred outlook (Brown, 2009), to address complex issues such as unemployment, financial inclusion etc. With this in mind, it is recognized that new service systems need to be put in place, in order to facilitate collaborative consumption mind-sets. Collaborative services are enabling systems and drivers for new models of local development that rely on greater collaboration of individuals amongst themselves within structured services to co-create 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, helpful, resourceful and based on intrinsic reward (Toffler, 1980). Today, collaborative services form a huge part of the sharing economy (Botsman and Rogers, 2010), where sharing of services is based on trust and managed directly between individuals, either for free or for a fee. Collaborative lifestyles consider exchange of time, skills, talents, spaces, money etc., forming part of individual idle capacities that can become useful and resourceful for entire neighbourhoods, communities, cities etc. Examples of this include co-working spaces, bartering, peer-to-peer social lending, crowd-funding, social currencies etc. (Botsman and Rogers, 2010). Expanding on the concept of collaborative services as enabling systems for service innovation, Meroni (2008) provides a few definitions on Strategic Design that provide pillars for this theoretical framework. Strategic Design is about:

- *Product Service Systems where innovation is focused on an integrated PSS strategy oriented to produce solutions:* In the case of monetary systems, an integrated service system strategy could mean introducing a complementary currency to diversify the existing means of exchange in circulation. The solution does not imply a lack of resources that, but on the contrary, there is an abundance of resources to transform idle capacities into social and economic capital.
- *Problem setting (what) and problem solving (how):* Money is defined and perceived as a "unit of account",

“medium of exchange” and/or “store of value” but this is not what money is, but what money does (Lietaer *et al.*, 2012) and therefore in this case, the functional thinking paradigm shifts its focus from the necessity of money (as an object) to a necessity of its function.

- *Social innovation driven by bottom-up behavioural changes:* Alternative money systems require the adoption of a new behaviour in terms of thinking differently about what money is, who produces and manages it, and how. They also ensure reinforcement of bonds in people-powered exchange of services, using newly created cultures of trust within peer-to-peer systems.
- *Co-designing in a collaborative way with different stakeholders:* Since complementary currency systems are solutions emerging bottom-up, they involve those who are financially excluded and therefore this opportunity supports them to co-create services that directly respond to their needs.
- *Building capacities through empowering people and creating a platform of tools and knowledge:* Parallel economies emerge in communities where exchange is favoured against reserved value and access is favoured against ownership and this enables members to exchange knowledge, skills, competences and time.

Participatory action research methodology

Building on the background knowledge, the research methodology deployed two main research strategies: *case studies* and *participatory action research (PAR)*. In this article, the intention is to present a significant part of the second research strategy - participatory action research - where the aim was to explore existing phenomena and potentially lead the design process through co-designing a new service model. In relation to designing new economic landscapes, disciplinary contributions of service design, participatory design and types of services, such

as collaborative service models, set the stage for framing the general aim of this research, i.e. to design a mechanism that ensures trust within communities through:

- Exchange of competences and peer-to-peer learning;
- Reliability of members in a network for business development;
- Reciprocal evaluation of professional skills on different levels;
- Transparency of peer-to-peer transactions of debt/credit.

PAR adopts a participatory design approach based on principles of democratisation of innovation within communities and public spaces that foster community empowerment (Ehn, 2008). For this reason, it was crucial to find and set up an appropriate collaboration opportunity with a concrete professional community. The research presented here was in part conducted in Italy, a country also affected by the socio-economic crisis, and this context provided a fertile ground in searching for potential partners/supporters. In order to reach the defined aim, the PAR methodology consists of four modules where each component provided outputs that served as key inputs for the consecutive steps (Figure 1).

Step 1: Preconditions

The activity of “preconditions” was to establish collaboration for experimentation with a professional community. This was accomplished with a social business called Impact HUB that primarily offers co-working spaces and within its “service offering” builds and manages communities of professionals. It is a global network (with over 60 offices) acting in part as an innovation lab, part a business incubator and community centre. It offers its members a unique ecosystem of resources, inspiration and collaboration opportunities to grow impact. The Impact HUBs are grounded on three basic pillars that are *trust*, *courage* and *collaboration*. The specificity of this community is the existing high level of trust. The community management

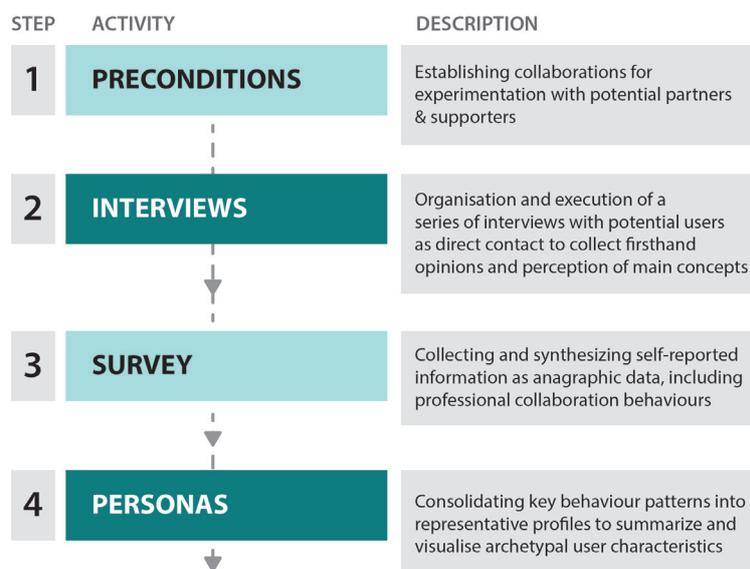


Figure 1. Overview of participatory action research methodology.

style operates in a de-centralized manner where social entrepreneurs develop their businesses through collaboration and mutual contribution to the community with their knowledge, ideas and experiences.

Step 2: Interviews

The “interviews” research method included both types of (a) impersonal *unstructured* interviews and (b) formal *structured* interviews (Martin and Hanington, 2012). For this research project, both types of interview formats were applied, conducted individually, in some cases done in person and in most cases using social media for reaching experts globally. The first “unstructured” type was used at the very beginning of the research phase, for exploratory purposes and for getting acquainted with the Impact HUB community and existing work dynamics. In comparison to participant observation, qualitative interviews provide insights on the social actor’s meanings, interpretations and their accounts of social interactions (Blaikie, 2010). In this case, the researcher role allowed the reporting on individual behavior in terms of how collaborations are achieved in such working environments. These insights further enabled the grasping of principles on which the community is based and also the social interactions taking place in the network dynamic on a global scale.

“Semi-structured interviews” were deliberately chosen as a semi-formal fashion to get acquainted with the philosophy and approaches of how these co-working spaces operate and to understand if and how a complementary currency system could be beneficial for members of this network. The semi-structured interviews included a brief introduction of the research project, specifying the aims and objectives, followed by questions relating to how the economic crisis affected the way community members work. The interrogation also focused on grasping the ways in which exchanges occur between social entrepreneurs within co-working spaces and how interactions are managed on national and international scale. Finally, the aim was to explore if and how an alternative currency system could have potential to be developed within these communities in order to bring more value to members. The objectives of the interviews were to inform the Impact HUB network about the research project; receive feedback from local contexts about existing and potential methods of collaboration; and to test the feasibility of such a project with regards to future scaling possibilities.

The interviews were conducted with a total of twenty Impact HUB members that included a mixture of the following roles: founder, co-founder, host, concept lead, membership manager, managing director, global virtual host, global practice coordinator, connect-matchmaking virtual host, researcher, mediator/facilitator, sustainability developer and international cooperation. In addition to these interviewees, the same interview was conducted with a few non-members who are experts in the field of complementary currencies. The interviewees come from 11 different countries that include: Belgium, Brazil, Canada, Denmark, Germany, Holland, Hungary, Italy, Singapore, United Kingdom and the United States.

Synthesis of interviews

Based on the individual interviews, the following paragraph summarizes the key findings drawn from the discussions evoked with the interviewees. Throughout the series of interviews, there was a huge stress on the main purposes for creating complementary currency systems and one of them was the need to build communities of trust. One of the main pillars of the Impact HUB network is also trust and in some cases, the socio-economic crisis had increased the need for trust. On the other hand, from some interviewees, there was evidence to support that too much trust can also be destructive in terms of blurring the boundaries between professional engagement and mutual community support. However, this pointed to an opportunity in designing a service model that is based on a mechanism of reputation that gives visibility of profiles between users who do and do not know each other. This form of reputation capital ensures good behavior that is fundamental for a recommendation process in a reciprocity circuit. Therefore, a crucial factor to consider for the service model would be a *reciprocal rating system* that could influence behavior through measurement of collaboration dynamics. Most interviewees stressed the importance of having a model for tracking the existing interactions, a formal mechanism for collaboration selection and potentially a means to monitor behavior related to accessing credit.

Another important point that referred to behavior change was *meritocracy*. The visibility and recognition of members in a network could be enhanced through a reward system in a community-based economy. This is where complementary currencies could become a “reputation currency” and as such provide adequate tools for value exchange. Feedback from interviewees also highlighted *personal idle capacity* that could be categorized and visualized through a database, including member’s both soft and hard skills. This connected to the main motivations for creating a complementary currency system that were *capacity building* and *individual empowerment*. The potential exchange definition varied from skills that could be (a) exchanged, (b) sold and/or (c) given away for free. The last definition of gifting was based on a giving culture that is already present within the Impact HUB network and that is *relationship-oriented*.

Complementary currencies use existing local resources and therefore the competences in a network could be a form of *capitalized work*. This circulating social and economic capital becomes productive through connectivity in an asymmetrical value creation. This is because distributed knowledge sharing can be used and/or donated as a temporary function in a form of mutual support that ultimately creates the community. The so-called “library of information” of member’s capital would need to be transparent and accessible, showing both past and on-going transactions through projects, interests, etc. Another important aspect to consider would refer to members being content with the result of accomplished interactions, especially since their membership is not about the exchanges themselves or quantifiable transactions, but about being part of a community. Focusing on the types of exchange, complementary currencies could not only encourage bilateral exchange but they could multiply the

interactions towards a *multilateral compensation*. This was based on a critical mass that is needed for the system to function and be sustainable, whilst at the same time providing enough diversity of service offers in order not to exhaust the on-going experiences.

Another issue was related to the *convertibility* of the virtual currency. The aim was not for members to gain more money than they may put in, since the currency is not a means to an end in itself. Rather the new credit system is an instrument to foster a strong engagement and collaboration in an informal economy. Value creation is dependent on the quality assurance that in turn creates the network effect. All participating members become part a collaborative consumption model where knowledge sharing creates newly formed social-bonds. Perception of value is determined by the members and community's reputation in a bottom-up manner and this influences how members self-evaluate their competences and visualize their own expertise.

Concerning the threats of implementing a new complementary currency system, the interviewees mostly expressed concern about skill compatibility and how to manage negative feedback. Other two concerns included the fact that most members would, (i) prefer to continue using fiat currencies instead of a new virtual currency; and (ii) be aware of the fact that cultural differences relating to how collaborative consumption models are accepted, would greatly influence its adoption in diverse countries. Scaling such a service models for Impact HUB members seems to have potential, especially if started small and local and then growing outwards beyond individual hubs to include other services. Global collaboration is a major issue and therefore a newly designed and structured system could have the capacity to enable multiple collaborations on a greater scale.

Step 3: Survey

The second type of survey method was a questionnaire and this commonly used quantitative data gathering method allows researchers to be completely distant from the actual social processes (Blaikie, 2010) and to design the questionnaire in a way that is entirely self-explanatory. This tool was structured in way that it allowed invitees to self-report their characteristics, behaviors and attitudes by

following a specifically planned layout for information flow (Martin and Hanington, 2012). The online questionnaire was compiled based on the inputs from the interviews. Following the recommendations from Impact HUB members to capture certain anagraphic data and to understand more the typologies of professional services, collaboration models and contacts, the questionnaire comprised of 20 questions in total. This part of the research sought to gather basic information both from members of Impact HUBs and other co-working spaces around the world.

For this participatory action research project, the questionnaire (a mixture of closed-ended and open-ended questions), reached 80 persons in both national (Italian) and international contexts. The findings were visualized through pie charts data visualization, illustrated in Figures 2-6 and provided quantitative data for further analysis.

The data was clustered into the following themes:

- Anagraphic Data;
- Professional Data;
- Business Data;
- Collaboration Models Data;
- Complementary Currency System Potential Data.

Anagraphic Data makes a quantitative account on age, gender, types of membership and the most prominent reasons for being a community member (Figure 2). This data includes gender identification that shows the majority of members being female, while age identification shows memberships being most evident with young people, below 30 years of age. The smallest membership number is in the "above 50 years old" data set. The questionnaire included both members from Impact HUBs, where the majority of people surveyed are freelancers, independent professionals and/or part of other similar co-working spaces that foster collaboration, social entrepreneurship etc. The main motivations why these individuals are members of diverse co-workings are to primarily find new partnerships, while the other major reason includes finding an economic workplace, with openness for potential international collaboration.

Professional Data considers the academic background, current occupation field, current employment model in terms of working for someone else, being self-employed or owning and running a business, including startup experience (Figure 3). This data includes infor-

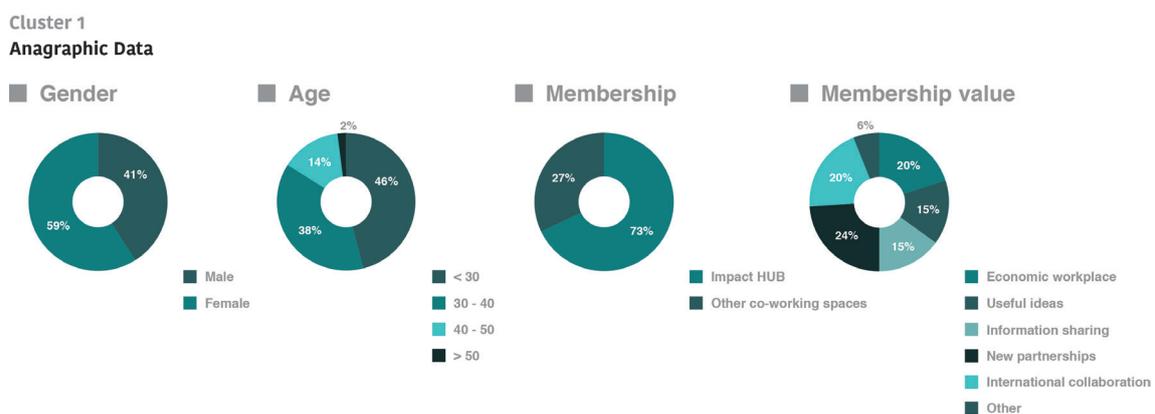


Figure 2. Anagraphic Data.

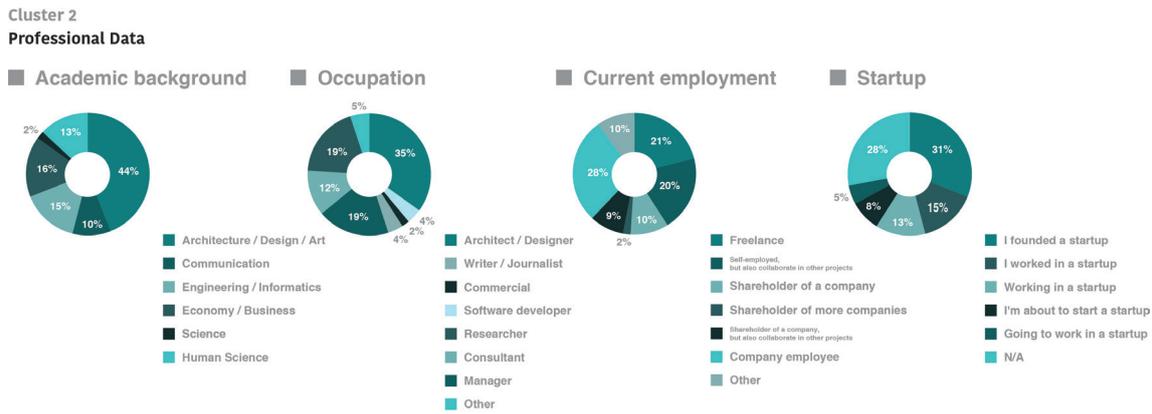


Figure 3. Professional Data.

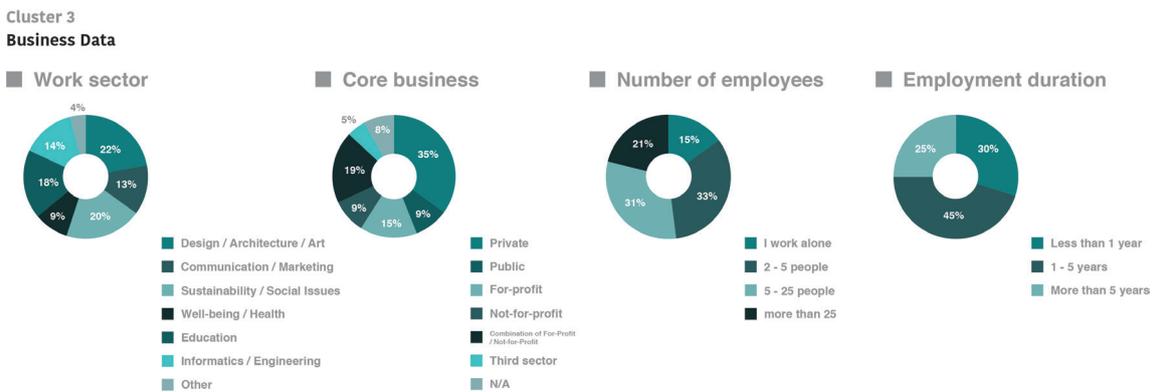


Figure 4. Business Data.

mation about academic background, where the majority of members belong to the Architecture, Design and Art field, followed by Engineering and Business backgrounds. The current occupation scale shows that most members are architects/designers by profession. However, the current employment data shows the majority are free-lancers and this is further reflected in the dynamics of start-up formation where the majority has founded a startup at some point in their professional careers. The second biggest majority are employees of other companies, studios, etc. and they have no startup experience.

Business Data focuses on work sector, core business profile, number of employees and business operation duration. This data illustrates Design, Architecture and Art as the dominant work sector. The second major sector is Sustainability and Social Sector. A big majority of businesses are in the private sector, while second place is taken by a combination of for-profit and not-for-profit, the so-called "hybrid model". As identified earlier, even though most of the members are free-lancers, the majority of members works in teams or collaborates with other professionals for specific projects, contracts etc. The greatest number includes teams of 2-5 people, while company employees usually work in environments of approximately 5-25 people. The employment duration, for the most part varies between 1-5 years while most members started their work within less than 1 year (Figure 4).

Collaboration Models Data refers to the format of getting in touch with potential collaborators, the policies governing exchange models including pricing and future exchange expectations and relevant services most searched for in relevant networks. This data demonstrates that in order to get in contact for collaboration, members equally refer to personal recommendations and personal connections. Doing things for free is the most practiced collaboration model, followed by the exchange of goods/services. However, when goods/services are traded, most of the members ask to be paid according to market prices. The second most prominent collaboration model is time exchange and finally doing something for free is tied to expecting something in return at a later stage. The services most searched for in the network are management and organization (Figure 5).

Complementary Currency System Potential Data primarily looks at information on if and how the socio-economic crisis has affected individual business operation. This part introduces the complementary currency systems and enquires about its potential, exchange evaluation and potential exchange definition. This data gives evidence of how alternative exchange mechanisms might work, how they are understood and how they see their potential application within the network. Reflections upon the affects of the socio-economic crisis show that most members have not been directly affected by it, even though some

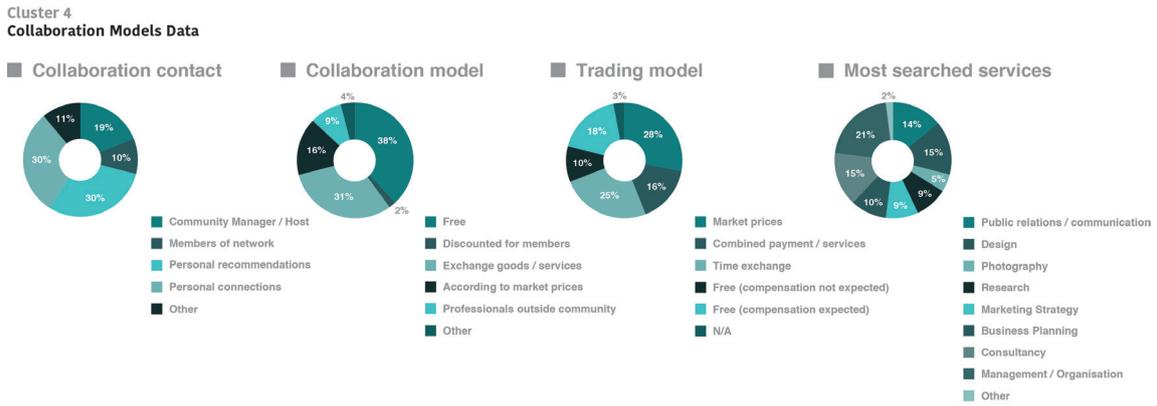


Figure 5. Collaboration Models Data.

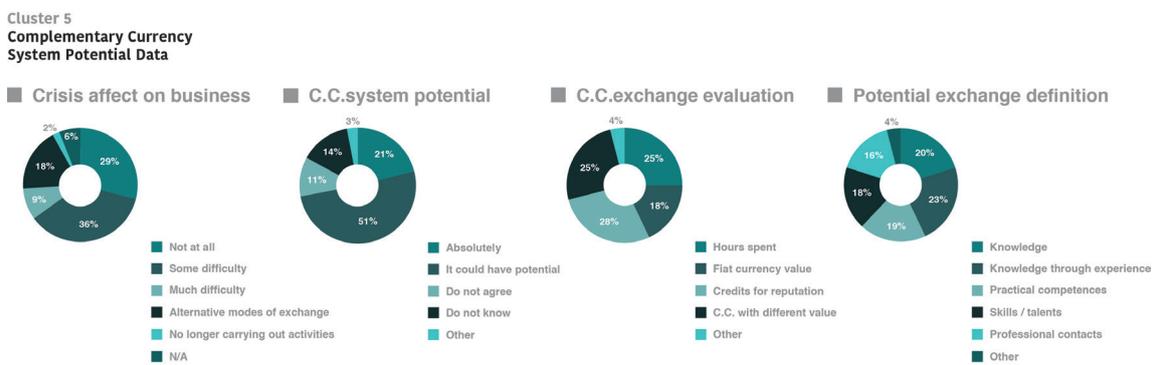


Figure 6. Complementary Currency System Potential Data.

have experienced only certain difficulties. This is also reflected in answers about how they see the possibility of complementary currency systems being useful for exchanges within the network. For the most part, members think it does have potential. In their views, complementary currency exchange could be realized through a credit reputation mechanism within the network. Members are willing to exchange their knowledge and know-how they acquire through work experience (Figure 6).

Findings from survey

What is evident from the survey is that members’ main motivation to be part of co-working spaces is to find new partnerships and open up international collaborations. Therefore, this shows the need for certain types of collaboration networks to build a structured service model that would visualize individual competences as a way to enhance collaboration on both local and international levels.

The educational background mostly involves creative fields and this could set an adequate basis for the implementation of freelance collaboration models for those who have experience with social entrepreneurship and innovation field. The major private sectors include core design and sustainability businesses, including small teams that have been operating for a few years. This also gives evidence of the types of members that are open to work in multidisciplinary teams on innovation

projects and do care about doing business that includes social, economic and environmental issues working towards social innovation.

Since most collaboration models rely on personal recommendations and connections, this demonstrates a stronger need for objectifying the way members find potential collaborators. The freedom to choose any realization of task through free exchange or market prices leave members with a wide spectrum of collaboration opportunities. This enables individual professionals to decide, according to their own economic status and personal convictions, the type of collaboration model that best suits them. This opens up the opportunity for using a structured complementary currency system for exchanges in the network and to also stimulate different motivations for using such service systems. Building reputation through a credit system by exchanging know-how means that members can both learn from each other and enhance their business opportunities.

Personas

Personas consolidate archetypal descriptions of user behavior patterns into representative profiles, to humanize design focus, test scenarios, and aid design communication” (Cooper, 2004 in Martin and Hanington, 2012).

Among the previously adopted data collection methods, the questionnaire offered more abstract data, while interviews provided more concrete accounts on existing behaviors. Both methods complemented each other in



Persona 1
MARIA (25)

"The reason I am part of the Impact HUB in Milan is that as a freelancer, it is the perfect economic workplace for the private design sector. Even though most of my collaboration contacts are based on personal connections, I have been engaged in other projects with members, where the most sought competences was UX design."

"I usually offer my services for free or as a time exchange. The economic crisis in Italy has affected me in some way and I have felt some difficulty in working as a free-lancer designer."

"I absolutely think that a complementary currency system in a co-working space such as the HUB would have potential. I would be happy to exchange my skills for credits or hours spent for a specific task as a way to further build my reputation in the network, especially since I do not have many years of experience. The potential exchange definition in my case would be knowledge gained through past projects."

- User Experience Designer
- Free-lancer
- Member of Impact HUB Milan
- Employment less than a year
- Team 2-5 persons



Persona 2
DAVID (33)

"Even though I am full-time employed with a software engineering company, I am a member of the Google campus in London where I am happy to work on additional projects that I truly believe in. I have been involved in a few startup projects that focus on the sustainability hybrid sector, meaning there are project both for-profit and not-for-profit."

"For the most part of my projects, collaboration contacts derive from personal recommendations through a collaboration model usually based on the exchange of mutual services defined according to market prices. The most searched competence that I am seeking for is management of open data for coding segmentation."

"In my job so far, I have not been affected at all by the crisis, but regardless of this fact, I do believe that a complementary currency system could have potential at the Google campus. I think that an alternative currency model could work if converted in national currency at a certain rate, maybe with a different value. In that case, I would use such a service model offering my knowledge as the potential exchange definition."

- Software Engineer
- Company Employee
- Employment 1-5 years
- Team 5-25 persons
- Member at Google London
- Founded a startup
- Sustainability Sector

Figure 7. Personas.

feeding towards the creation of distinct human descriptions that identify key emerging characteristic to be addressed by design. The two resulting personas are based on typologies of information obtained from questionnaires (quantitative data) integrated with qualitative data that emerged from interviews.

The personas include fictional images, names, and summarized descriptions from Anagraphic; Professional; Business, Collaboration Models; Complementary Currency System Potential data. The major and distinct features of potential users of the service model, includes the main motivations to be part of a collaborative space in order to work on projects with other members. It also reflects on affects of the economic crisis on their business operation. It summarizes what services are currently exchanged between community members and through what type of exchange model.

Most importantly, it illustrates the potential of implementing a new designed service model for transparent peer-to-peer transactions and to incorporate a reciprocal evaluation of professional skills in a network for business development. This research method was helpful in reaching the research objective, by merging all previous characteristics into a synthetic tool that could (i) examine the potential of designing a new complementary currency system and (ii) be used for consecutive research steps that will include co-designing the service model with a professional community.

The role of design

This research has provided an overview of how members, from social business and co-working spaces, could potentially envision a service system for relationship-oriented exchange of competences, peer-to-peer learning and collaboration. It emerged that the designer role would be to design a service system capable of enabling a reciprocal rating system of exchanged services; capitalization of personal idle capacity; individual and collective empowerment; capacity building; and a platform for multilateral compensation. Within this context, designers act as "solution providers" to:

- Generate collaborations among diverse social actors (local communities and companies, institutions and research centres);
- Participate in the construction of shared visions and scenarios;

- Co-design articulated systems of products, services and information (Manzini in Meroni, 2007).

Therefore, the designer role is to facilitate the change processes and co-designed engagement with potential users and stakeholders (Steen, 2009) and co-create services to address particular needs and circumstances of individuals and communities (Cottam and Leadbeater, 2004). This process requires the co-creation process to be conducted with members of hubs, co-working spaces etc., and to co-design a new service model where the role of the designer is to foster interactions to occur in co-creation of value and act as "an enabler" within these collaborative platforms (Meroni and Sangiorgi, 2011).

Complementary currency systems can only make sense within communities they emerge from, if they generate an adoption of new forms of collaborative behaviour or practice. This design process requires interaction, participation and joint problem solving between users (Manzini in Meroni, 2007) and the design discipline to apply multidisciplinary knowledge to "support and enable the distribution of resources and knowledge" (Cottam and Leadbeater, 2004, p. 28).

Conclusion and next steps

In this paper, the socio-economic crisis has been the starting point of a strategic evaluation and building of opportunities to generate, accelerate and co-design collaborations among diverse social actors. By looking at data within diverse collaborative working environments and analysing professional collaboration and business models, complementary currency systems are presented as one potential resilience strategy to overcome financial exclusion in the economic landscape. This presumption is based on "monetary eco-systems" that could structurally diversify current economic exchange of services.

The on-field research data, through interviews with Impact HUB members across 11 different countries and including other social entrepreneurs, has shown how and to what extent the socio-economic crisis has affected the way in which they work. It has given insights into the types of collaboration styles that make exchanges of services possible between social businesses within and through co-working spaces, in a formal and informal manner. Col-

laborations crossing national and international borders have been outlined, highlighting the ways in which certain types of collaborative interactions take place. Finally, a reflection has been made on how a potential complementary currency system would increase and accelerate existing collaboration models, by potentially co-designing and developing a community currency to fulfill the needs and bring more value to members. The next steps in the research path would be to emerge in a real context where principles of how professionals collaborate and practice service exchange in a collaborative environment are evident. A co-working space where trust is embedded and fostered in all types of collaboration models, such as the Impact HUB, could be considered for conducting a program of co-design sessions. The participatory process would include community members, who already know each other well and have a high level of professionalism, to experiment using service design methods and tools.

This research has explored the role of the designer in articulating user needs in responding to failures in income distribution. This is possible through the co-design of resilient service systems as action platforms to lead economic transformations. It is the responsibility of the designer to address these issues as new design competences that can provide adequate visions, strategies and co-design tools necessary to develop ideas and realize them into promising solutions. In line with Jégou and Manzini (2008), this research has showed that “innovations are driven more by changes in behaviour than by changes in technology or the market and they typically emerge from bottom-up rather top-down processes” (p. 29). Therefore, rethinking money does not only require the modification of cultural principles, norms and values, but also nudging different behaviours that will “introduce change into the established order” (Godin, 2012, p. 1).

Design resulted to be critical in facilitating disruptive processes that can cut across traditional models and hierarchies and lead economic transformations through co-design service models. Moreover, design can help in creating new service models that “simultaneously meet social needs and create new social relationships or collaborations” (Murray *et al.*, 2010, p. 3). Most importantly, this research has showed the potential of design not to provide access to resources through a functional thinking approach, but also to catalyse a capacity building approach.

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