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Design in a time of crisis: Social innovation in product-service-systems interconnections between existing developing and developed economic models towards social innovation

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Emerging Practices

Inquiry into the Developing

新兴实践：发展中的探究

马 谨 Davide Fassi 姜永琪 编

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Design in a Time of Crisis: Social Innovation in Product- Service-Systems

Interconnections Between Existing Developing and Developed Economic Models Towards Social Innovation

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Abstract: This paper represents part of an on-going participatory action research project within a city affected by the socio-economic crisis. The focus of research is to explore the possibilities of transforming idle capacity of skilled professionals into job opportunities and defining strategies for designing a new value creation system between members in a community. Through a deep analysis of an abundant collection of emerging practices in both developing and developed contexts, significant synthetic notions can be drawn from very diverse communities that illustrate the role of trust, responsibility and reputation in the design of collaborative exchange mechanisms. The existing complementary currency models serve as an inspiration and foundation for conducting the research in collaborative and creative spaces, using a bottom-up approach in designing a new service model with potential users in order to create value for that community. If a successful long-term and not only crisis-driven model could be designed, prototyped and globally replicated, based on debt-credit system and knowledge economy with enormous benefits of access to products and services, then it could enhance economic efficiency and distribute social capital while promoting new forms of entrepreneurship.

Keywords: *Socio-economic crisis, complementary community currency systems, developed and developing contexts, collaborative service design.*

- 1 Wojtek Kalinowski, "Currency Pluralism and Economic Stability: The Swiss Experience," *Veblen Institute for Economic Reforms*, accessed August 25, 2015, October, 2011, http://www.vebleninstitute.org/IMG/pdf/currency_pluralism_and_economic_stability_eng_oct_2011_.pdf.
- 2 David Roodman, *Due Diligence: An Important Inquiry into Microfinance* (Washington DC.: Center for Global Development, 2011).
- 3 Bernard Lietaer and Jacqui Dunne, *Rethinking Money: How New Currencies Turn Scarcity into Prosperity* (San Francisco: Berrett-Koehler Publishers, 2013).

1. Introduction

The current hardship of the socio-economic crisis of 2008 has created conditions of high unemployment due to the deficit of cash flow, affecting young professionals, social entrepreneurs and start-uppers who are neither able to operate and develop their businesses nor offer their skills and competences on the market. With the current trends of mass collaboration and age of access, there seems to be an opportunity for collaborative consumption models to become the right tool in finding alternative models for these types of exchanges. Kalinowski claims, "Parallel currencies play a critical role in the current wave of social innovation. They can assume different forms – local currencies, time currencies, local exchange systems, inter company credit systems...as mechanisms for territorial or social cohesion."¹

2. Broader Implications of the Terms 'Developing' and 'Developed'

If we define the term 'developing' with inverting criteria that define a developed country, such as contexts where people have less education and income, implying a certain kind of inferiority, we are then forced to take a closer look at these realities and identify the ways in which these underdeveloped environments have given rise to unique forms of innovation. These forms can be closely observed through emerging practices that demonstrate a new set of existing behaviors as a way to address emerging social and economic problems. It is these types of self-organizations, created out of necessity, within local communities and with the help of governing bodies in some cases that as assets provide a rich source of inspiring solutions.

The developing status with regards to developing economies manifests diverse strengths through economic empowerment of the poor through permanent access to credit. One well-known practice is the Grameen Bank in Bangladesh that demonstrates the potential of a microfinance contemporary banking phenomenon. Small loans provide the means for individuals in poverty to start small enterprises or agricultural initiatives and this has proven to work best when remains within small groups of individuals with common goals and backgrounds.²

A common challenge between developed and developing contexts can be seen through practices that create behavioral change through reward. In a poor immigrant neighborhood in Gent, Belgium, the government has applied the method of complementary currencies, where citizens can earn credits by sowing seeds and collecting litter in the public areas. The "Torekes" currency is earned through planting window boxes, using green power and collecting litter in the neighborhood. Once the residents obtain Torekes, they can spend this local currency on bus passes, cinema tickets, low energy bulbs, get fresh vegetables and buy discounted products from participating retailers.³ It is about small actions, many residents can participate, including those who are strapped for cash and often fall on the edge in other premium systems.

“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.”⁴ Local residents in Kongowea, Kenya share the same values since the community currency encourages trade to remain within the neighborhood, injecting capital into the local economy by allowing residents to care for and sustain their environment.⁵ This approach addresses residents in both contexts that are usually impoverished financially and often fall to the sidelines in standard premium systems.

Another two practices that find mutual inspiration are the Bangla-Pesa network in Kenya and Sardex circuit of commercial credit in Italy. The two systems facilitate the exchange of goods and services, encouraging responsibility and building trust within the network. Sardex does not provide initial capital, but enables small to large businesses in Sardinia to trade goods and services in a matter that is sustainable, counter cycle and fosters social cohesion.

3. What Can We Learn from Emerging Practices in Developed Contexts?

Since 1970, the International Monetary Fund defined hundreds of bank crashes and monetary collapses that clearly demonstrate our instable economic systems. New forms of innovation can be closely observed through emerging practices that demonstrate a new set of existing behaviours as a way to address emerging social and economic problems. It is these types of self-organisations, created out of necessity, within local communities, and with the help of governing bodies in some cases, that could as an asset provide a rich source of inspiring solutions.

3.1 WIR Bank

From the works by Lietaer⁶ and Kalinowski,⁷ we can find “WIR Bank” from Switzerland that is the most famous example of a mutual credit clearing system, created before World War II and still maintains the balance of Swiss economy today. During a period of economic difficulty and extensive creative economic experiments, two social reformers, Werner Zimmermann and Paul Enz founded the WIR cooperative in 1934, during a period of currency shortage and economic instability. WIR’s original name was the Economic Circle Cooperative. However WIR in German means “we” and it is also an abbreviation for “Wirtschaftsring,” which means “economic circle.” It was the first official complementary currency connecting businesses in an exchange network and creating jobs for small-to-medium enterprises to act as business-to-business transaction currencies.⁸

WIR mutual credit system asks their members to pay a small membership fee to join the cooperative, after which they can start to trade with each other. Each trade is recorded through a central bookkeeping authority

- 4 Hallsmith Gwendolyn and Lietaer Bernard, *Creating Wealth: Growing Local Economies with Local Currencies* (Gabriola, BC.: New Society Publishers, 2011).
- 5 William O. Ruddick, “Eco-Pesa: An Evaluation of a Complementary Currency Program in Kenya’s Informal Settlements,” *International Journal of Community Currency Research* 15, (A) (2011) : 1–15.
- 6 Lietaer, *The Future of Money: Creating New Wealth, Work and a Wiser World* (London: Random Home); Lietaer and Dunne, *Rethinking Money*.
- 7 Kalinowski, “Currency Pluralism and Economic Stability.”
- 8 For a detailed description of WIR system see http://p2pfoundation.net/WIR_Economic_Circle_Cooperative.



Figure 1. (Left) Sarah Forrester-Wilson from the Bristol Pound, Jo Wheatcroft, owner of the Source Food Hall and Cafe, and mayor George Ferguson. <http://www.bristol.gov.uk>.



Figure 2. (Right) The Bristol Pound notes.

while WIR money is only created in the moment of exchange and therefore no money is physically exchanged between members. Lietaer goes on to say that “money is our oldest information system – even writing was invented in Mesopotamia as a method of book-keeping.”⁹ There are limits both for the positive and negative balances that each member can have on their accounts since it is necessary to maintain the balance of credit/debt within this system. In order to prevent “credit hoarding” (accumulation of credit), positive credit balances do not earn interest and therefore this stimulates the circulation of credit within the economic circle.¹⁰

Members can borrow Swiss Francs after having traded in WIR credits for a while at interest rates far below the regular bank rate and since it is stable, 1/4 of all businesses use the WIR currency. The WIR uses the mutual credit equivalency (1 WIR = 1 Swiss Franc) and many trades occur in a mix of Francs and WIR, since members can keep balances both in the national currency and in WIR credits. One of the membership rules requires that every trade should be conducted with at least 30% in WIR. WIR cannot be exchanged for Swiss Francs, but they can only be spent as WIR, while non-members can also make WIR exchanges, but have to pay a slightly higher transaction fee.¹¹

The Swiss WIR surpassed its “experiment” stage and is now an established institution that others have sought to imitate, being manageable more through technology of smart cards and Internet transactions. It has shown that demand for WIR decreases in periods of growth and increases in periods of crisis and high unemployment. WIR also clearly demonstrates that exchanges that build communities without money are possible even on a large scale and can be lasting entities. It also shows that these non-profit institutions can expand and serve as a safety net during periods of economic crisis, both for individuals and for the small-to-medium sized enterprises that are most vulnerable in those times.¹²

3.2 Bristol Pound

Bristol Pound is an example of a community currency, already implemented and functioning in the town of Bristol, UK. The currency was initiated by citizens in order to have more control of where their money goes and make sure that it remains and circulates only within that city. If businesses or individual sellers accept this currency, they have more clients that are

⁹ Lietaer, *The Future of Money*.

¹⁰ Ibid.

¹¹ Heidi Defila, “60 Years of WIR Business Circle Cooperative – Origins and Ideology,” trans. Frederika Almstedt and Thomas Greco, *WIR Magazine*, September 1994.

¹² James Stodder, “Complementary Credit Networks and Macroeconomic Stability: Switzerland’s Wirschaftsring,” *Journal of Economic Behaviour & Organization* 72, no.1 (2009): 79–95.

ready to pay for their services with this new complementary currency. There have been concerns on whether or not this could be a threat to the national economy. However the local authorities see this as a positive support for local traders since the currencies remains within the city and as a result, the municipality accepts taxes to be paid in this currency as well.

On the website of Bristol Pound,¹³ it is possible to see how the pounds can be used locally on the geographic territory. Ultimately the spending habits of the citizens change because they frequent the places that accept this currency and payments are possible with the following methods:

- ___ SMS
- ___ Electronic payment
- ___ APPs on mobile phones
- ___ Paper money (designs proposals provided by citizens with illustrations that for them best represent the city of Bristol as shown in Figure 2).

3.3 WAT

The WAT system in Japan is a type of circulating IOU (I Owe You) system between small businesses, their suppliers, and others who agree to accept the notes within the community. Businesses use a WAT ticket in the WAT system to pay their supplier; it is a form of ticket that states the amount owed, business who issued it with their signature (many stores in Japan use a special stamp) and whom it is being issued to. The supplier can then use the WAT to pay someone else, writing his name on the back of the note and the name of recipient and the next recipient can do exactly the same thing. The note circulates in this way, adding names, until it finally reaches the original issuer, who accepts it at face value for goods or services and destroys the note.¹⁴

What is innovative about this system is that it is directly peer-to-peer; there is no central authority or administration that runs the currency. The trust in the WAT depends on trust within the community and that the original issuer will honor the note. Anybody willing to accept a WAT note is automatically a participant in the system. It is a system of exchange that allows for the free circulation of goods and services without using any money. The tickets are more than just an alternative currency because the practice of adding the participants' names to the ticket itself when it is exchanged means that their circulation creates the community. The more the ticket circulates before it is destroyed, the more a recipient can see how people have trusted the note and are willing to value it and pass it on. This means that the tickets themselves create the community; each participant adding their name adds to the ring of trust. Its limitations are that participants whose reputation is unknown are unlikely to be accepted as original WAT issuers, but as they participate and accept the notes and gain positive reputations, they are able to gain trust within the system.¹⁵

¹³ For detailed materials and media format see <http://bristolpound.org/>.



Figure 3. (Above) The WAT system ticket, Side A. <http://www.imagination-forpeople.org/en/project/wat-complementary-currency/>.

Figure 4. (Below) The WAT system ticket, Side B. <http://www.imagination-forpeople.org/en/project/wat-complementary-currency/>.

¹⁴ Bernard Lietaer, "Complementary Currencies in Japan Today: History, Originality and Relevance," *International Journal of Complimentary Currency Research* 8, 2004.

¹⁵ Ibid.

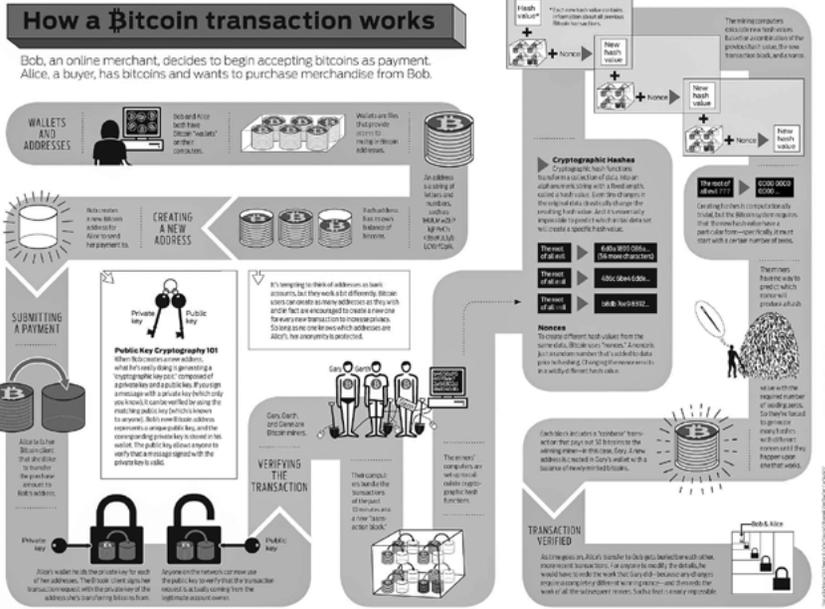


Figure 5. How a Bitcoin transaction works. <http://www.spectrum.ieee.org/img/06Bitcoin-1338412974774.jpg>.

- 16 For a detailed description on how Bitcoin works see <https://bitcoin.org/en/>.
- 17 Joshua Davis, "The Crypto-Currency: Bitcoin and Its Mysterious Inventor," *The New Yorker*, October 10, 2011, accessed November 13, 2014, <http://www.newyorker.com/magazine/2011/10/10/the-crypto-currency>.

3.4 Bitcoin

Bitcoin is a digital currency introduced in 2009 that is transmitted from one user to another over a peer-to-peer network that has no central hub. The software used to manage the coins is an open-source community project where the money is based on the idea of crypto-currencies as a method to create and transfer money.¹⁶ Satoshi Nakamoto (a pseudonym) who started this cryptography had the intention to create a currency as a way to eliminate the insecurities and costs of Internet commerce that are currently conducted through financial institutions. From Figure 5, it is possible to grasp the mechanism upon which the Bitcoin system works. Bitcoins can be generated through a computer network and they are awarded approximately every 10 minutes and distributed to other computer systems called "miners." These computers work to solve difficult mathematical problems with an estimation of how long it takes to solve such a problem. When the problem is solved, a "block" is created and announced, and thus new Bitcoins are awarded.¹⁷

Users keep their Bitcoins in a digital wallet (open source software that can be downloaded) and they can send Bitcoins to other individuals or merchants, using their electronic signatures i.e. a public key. This public key becomes the Bitcoin address for the intended payment and the transaction is signed with the sender's private key. These keys are long strings of numbers and letter (27–34) and the public key is given publicly as an address, while the private key is kept secret.

Compared to traditional electronic money transfer systems, the advantages of this open and decentralized system are that there are no additional fees for any transaction. They are completely beyond the control of traditional banking structures and are independent of any individual or organization. It has no single point of failure and can achieve a high degree of anonymity, which has also resulted in misuse of this system by repeated

purchase of illegal substances, gambling etc. Bitcoin raises profound issues on the prospect of crypto-anarchic social order where governments no longer have a role in controlling monetary systems.

These emerging practices in developed context highlight different parameters: WIR and Bitcoin have been initiated by individuals, while the Bristol Pound and WAT System have both been initiated by citizens as a solidary movement. Only Bitcoin has an open system and includes all types of interactions such as peer-to-peer, business-to-business and business-to-customer. They are all examples of complementary currency systems operating within the private sector, except Bristol Pound that is also publicly owned. The WIR and Bristol Pound are centralized systems in their structure of operation, while the other two examples are clearly decentralized and have a flat hierarchy of power.

4. What Can We Identify from Emerging Practices in Developing Contexts?

Community currency systems have recently grown in popularity and there are many initiatives of parallel currencies and reciprocal exchange systems in Thailand, Senegal, Mexico, El Salvador, Peru, Ecuador, Colombia, Brazil, Uruguay and Argentina.

4.1 Grameen Bank

Microfinance, a contemporary banking phenomenon, began in the 1970s with a program that would become the Grameen Bank in Bangladesh and this methodology of the credit delivery system can be found on the website grameen.com. It grew to become a widespread tool for economic empowerment of the poor in the following decades and has received much attention including the Nobel Peace Prize in 2006 for its founder Muhammad Yunus. The program originally started with the idea of bringing credit to the poor, who would otherwise be excluded from traditional banking mechanisms. The philosophy behind the project is that small loans provide both the means and the initiative for individuals in poverty to start small enterprises or agricultural initiatives, enabling them to better their financial position in a permanent way.¹⁸

The overwhelming majority of clients are women, who represent a marginalized group even among the economically marginalized. In the Grameen bank, each borrower belongs to a small group. Each member is responsible for repaying only her own loan; she is not responsible for the loans of the other members if they default, but at the same time no further credit will be extended to the group if any of the members is in default. Yunus explains “Group membership not only creates support and protection but also soothes out the erratic behaviour patterns of individual members, making each borrower more reliable in the process. Subtle and at times not-so-subtle peer pressure keeps each group member in line with the



Figure 6. Grameen Bank borrowers attend a weekly center meeting to make loan repayments. <http://www.sowestimeast.wordpress.com>.

¹⁸ Roodman, *Due Diligence*.

19 Yunus Muhammad, *Banker to the Poor: Micro-lending and the Battle Against World Poverty* (New York: Public Affairs, 2003), 62–63.

20 Roodman, *Due Diligence*.

21 Rajdeep Sengupta and Craig P. Aubuchon "The Microfinance Revolution: An Overview," *Federal Reserve Bank of Saint Louis Review* 90, no. 1 (2008): 9–30.

22 Jayo Martin, Marlei Pozzebon and Eduard Henrique Diniz "Microcredit and Innovative Local Development in Fortaleza, Brazil: The Case of Banco Palmas," *Canadian Journal of Regional Science* 16, no.1 (2009): 115–128.

broader objectives of the credit program. [...] Because the group approves the loan request of each member, the group assumes moral responsibility for the loan. If any member of the group gets into trouble, the group usually comes forward to help."¹⁹ This means that social pressure from within the group is the major source of securing repayment, and members will often help each other towards that goal as well; this has been termed "solidarity lending." The bank also requires that the groups develop small savings funds and that members pledge to follow the "Sixteen Decisions," a set of values concerning how to live regarding sanitary housing, cleanliness, growing vegetables, promoting education, the elimination of dowry and child-marriage, and economic solidarity. The bank itself is owned by its borrowers, with a small percentage of ownership help by the government of Bangladesh, and all of its contracts are based on trust, as opposed to legal documents.²⁰

The success of the Grameen Bank model has led similar micro-finance initiatives run by communities, non-profit organizations, and traditional banks all over the world. There are some problems with this rampant spread, particularly the introduction of venture-capitalist interests into the mix. Evidence suggests that the project has proven to work best when it is employed amongst small groups of individuals with similar backgrounds and goals, when it remains out of the hands of profit-oriented organizations, and when lending is not the sole source of assistance offered.²¹

4.2 Banco Palmas

Among the many disruptive practices that can be found in developing but uneven growth economies, are community development banks in Brazil such as Banco Palmas. They aim to overcome extreme poverty and unemployment by developing a solidarity economy (an economy driven by common community betterment instead of making profits). Brazil is currently one of the top growth economies in the world, but this growth had been uneven, leaving its most vulnerable citizens in extreme poverty and unemployment, and with decreasing assistance from the state. Community development banks have been formed not just to fill this gap, but to also reject the idea of economic development that creates a poor segment or region of society. They assert there is always a way for a poor area to economically develop, as long as it comes from a solidarity movement from within the community. Although the Brazilian government created policies to encourage microcredit initiatives starting in the late 1990s, the NGOs and financial institutions that created such programs, that were merely copied from models used in other countries, have performed incredibly poorly in comparison with these community banks that have developed their own local methods of operation.²²

A bank is formed when a community creates it, and it gets support from the network of similar such banks. The community owns the bank and runs it. They offer different types of loans, inexpensive insurance, and

they create a community currency as well. This allows people in poverty access to funds to start economic ventures, and encourages everyone to produce and consume within the community, to facilitate a cycle that creates more jobs and economic ability. The banks also often offer training for new businesses and enterprises. It is much more than just a bank, or just a community currency; it is a holistic project of economic development that comes from within the community itself, with the ideology of everybody in the community benefiting from the activity. The community currencies are indexed to the state currency, the real, and local businesses usually offer a discount to customers paying in the community currency.²³

4.3 Red Global de Trueque

The Red Global de Trueque in Argentina is a reciprocal barter network, with an ecological focus in training people to practice sustainability by utilizing barter as an environmentally friendly consumption model without using money. This network encourages members to think of themselves as “prosumers,” stressing equality among citizens through the created exchanges. While this group began among individuals for whom the exchange network enacted an ideology about sustainability and social exchange, Argentina’s high unemployment and growing wealth disparity brought many more individuals into the network because of economic necessity. They developed a social currency “*Crédito*” to expand beyond just face-to-face barter.²⁴

Clubs in Buenos Aires held a trading market weekly where individuals met directly and could barter and use the currency, in addition to the many shops and services that came to accept them. In a period where economic difficulty combined with increased global trade created severe problems for small local shops and producers, these networks allowed many of these small businesses to stay open. The Red de Multirueque (Multi-trade Networks) spread through Latin America as a concept, and there are many flourishing organizations with community currencies and trade networks. The emerging practices in Brazil and Argentina have a couple of things in common: they are both initiated by the community; have an open system; focus on peer-to-peer interactions; operate in the public sector and have a decentralized structure of operation. All three of these examples demonstrate prevailing solutions as a series of sustainable paradigm shifts to existing socio-economic challenges and thus reorganizing the behavior patterns within the society as a whole.²⁵

5. Field of Focus

The theoretical framework of the research encompasses disciplines such as sociology with issues such as unemployment, including topics such as the age of access, virtual/real interactions as well as economics with topics such as social economy, collaborative consumption, new business models and complementary currencies. By applying a design-led approach to social



Figure 7. Banco Palmas, Brazil.
<http://www.changemakers.com>.



Figure 8. Red Global de Trueque, Argentina.
<http://www.lanacion.com.ar>.

²³ Ibid.

²⁴ Ruth Pearson, “Argentina’s Barter Network: New Currency for New Times,” *Bulletin of Latin American Research* 22, no. 2 (2003): 214–230.

²⁵ Ibid.

innovation, what needs to be designed is a new service model within cities affected by the socio-economic crisis and to explore collaborative and creative spaces by the means of decentralized exchange.

The case studies illustrate that due to the nature and/or main causes of the global crisis in the different contexts in which it has emerged, it is clearly difficult to transnationally replicate an existing model into another context. One key question is what is the specific need that the application of a new complementary value creation system would fulfill? In the developed contexts, such as with cases of WIR in Switzerland and Bitcoin demonstrate a need for economic benefit, that is permitted independently of any individual or organization and this is key in understanding how to approach, manage and implement any one of these systems into the existing social order. Sardex in Italy and Torekes in Belgium demonstrate a need for enhancing collaboration, in some cases through the introduction of meritocracy and using existing local resources. In the case of Sardex, it also illustrates the possibility to build communities without money where services offered within the network are the currencies themselves that serve the function of validating and numerating exchanged values. This again gives light to a model in which such systems could be possible and show how the internal interactions could take place. WAT case in Japan demonstrates a need for local and/or individual empowerment and this is established through the acceptance and circulation of physical tickets, that are evidences of trust and honor that members adopt as their own currency, and thus automatically become participants in this circuit of trust. These cases bring us to the assumption that the underlying mechanisms of complementary currency systems are the same as with fiat currencies that intend to solve economic problems but are limited in their functionalities. Their lack of access to individuals in need of economic support does not permit the empowering of self-organizing communities, increasing overall economic and social stability as community currencies do.

Additionally, case studies such as Palmas Bank in Brazil, Bangla-Pesa in Kenya, Grameen Bank in Bangladesh show the need for financial inclusion, building stronger community ties, trust and capacity building. The example of community banks gives evidence of how self-organization occurs within economically marginalized communities, usually out of necessity or where traditional financial models have failed. Within areas with almost no access to formal credit or banking for local businesses and a high level of poverty, these solutions give individuals some credit to get their activities up and running and raise the local economy by encouraging business to buy and trade with each other within the network. The network is run by a board made up of elders, youths, business owners, and community workers, keeping the administration and ownership of the development of the local economy connected to the concerns and goals of the people who are actively participating in it.

What can be seen, in the above examples within developing contexts,

is the role of community members who primarily own and run the bank (made up of both borrowers and lenders), therefore creating a certain kind of “provider-user reciprocity.” The established social pressures within the group make sure that the necessary repayments are secure and in this way solidarity is promoted and kept long-term. It is argued that community involvement and local governing of projects, such as the ones we have looked at in more detail, makes them much more sustainable (enabled through the community currency) than regular financial funding would be. Even the money itself is designed by local residents, youths, village-elders, etc., further encouraging the community’s ownership of the economy. This encourages both responsibility and trust within the network.

It is these different forms of currencies that act as systemic structural components that make these systems sustainable and enable territorial and social cohesion. The so-called “social tax” (an internal mode of payment as a privilege to be part of such system) is enacted through the motivation and application of individual contributions (usually as gifting) that can be regulated within the system or through the support of local authorities. This holistic collaborative approach benefits every individual within the system and therefore encourages new forms of economic development (consumption without money) that also stresses equality among citizens through the created exchanges.

The specific aims of such a service would be the creation of relationships, qualities and realization of needs through a complementary currency, where the word “currency” acts as metaphor that gives value to things. There seems to be an opportunity for collaborative consumption systems to become the right tool in finding alternative models for these types of exchanges that would positively affect the quality of human interactions at large. Complementary currencies are one way to strengthen the relationships within a city and the assumption is that this can be applied in peer-to-peer communities.

6. Conclusions

As part of an on-going action research project, the assumption is that there is fertile ground for complementary currencies to strengthen the relationships within a community, supported by ICT and practiced through co-design. The service design field is challenging current business models by re-defining new exchange mechanisms. Design research and design practice can draw inspiration from previously mentioned transformations that can provide valuable insights in how certain systems within developing or developed contexts work. These concepts could be implemented through the creation of an enabling system that can allow existing communities to exchange their goods and services with a complementary medium. The application of such a model would be initiated by creating awareness of possible solutions and successful practices that could be co-created to the specific

26 Lietaer, *The Future of Money*.

territory and needs of that community. Applying service design skills and tools, the idle capacities of members within the community, that are social capital for the potential exchange (such as learning, teaching, consulting and co-authorship) would need to be made visible and systematically structured. By making offers/needs visible and accessible on a digital platform, members could start applying the concepts of mass-contribution and mass participation that could enhance the designed interactions to take place both online and offline. Requests could be fulfilled through the competences of network members and paid back respectively through the debt/credit balances, that would be visible and traceable on each member's profile. In this case, reputation would be treated as a currency in itself and be the trust enabling component that would ensure good behavior of members.

The goal is not to only apply a complementary currency system as it is into collaborative spaces, but to use a bottom-up approach in designing this service with potential users in order to create value for that community. The factors that could enable such a service model to be successful are the following: it would be a complementary system, not a substituting one that does not aim to replace the existing monetary systems; and the availability of information technology to implement new money systems.²⁶ This potential peer-to-peer model would have no central hub/authority/administration that runs the currency exchanges and therefore would eliminate any additional transaction fees, thus making it attractive for any community to apply this model. The application of such a model could be replicated and scaled in other contemporary contexts and give light to novel collaborative consumption systems that are people-powered services operating with a decentralized role in peer-to-peer interactions. If a successful long-term and not only crisis-driven model could be designed, prototyped and globally replicated, based on the debt/credit system and knowledge economy, enormous benefits of access to products and services, then it could enhance economic efficiency and distribute social capital while promoting new forms of entrepreneurship.

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