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Information technology

Mobile social money: an exploratory study of the views of managers of community banks

Moeda social no celular: estudo exploratório sobre a percepção dos gestores de bancos comunitários

Moneda social en el teléfono móvil: estudio exploratorio sobre la percepción de los gestores de bancos comunitarios

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Abstract

This article aims to evaluate the adoption potential of a digital social currency model using mobile phones. Despite the significant literature concerning both social currencies and mobile payments, there are few studies with a focus on social currencies being operationalized via mobile payments. An important aspect of the literature on mobile payments and social currencies is the role that both instruments may play in the financial inclusion. Despite the absence of lasting experiences for an empirical analysis in Brazil, we believe that there may be synergy between these two types of payment instruments. To evaluate the potential of a mobile digital social currency, we conducted interviews with community bank managers, focusing on their perceptions of acceptance of this innovative model in their communities. As a theoretical basis, we articulated the concept of transformational framing, originated from the perspective of interpretive frames of collective action. As a result, we identified a transformational discourse by which community bank managers create new meanings and understandings of this emerging payment system model.

Keywords: Social currencies; Community banks; Mobile payments; Collective action

Resumo

O objetivo deste artigo é avaliar o potencial de adoção de um modelo de moeda social digital via celulares. Apesar da existência de uma literatura significativa tanto sobre moedas sociais quanto sobre pagamentos móveis, quase não há estudos sobre moedas sociais operacionalizadas via pagamentos móveis. Um aspecto importante da literatura sobre pagamentos móveis e sobre moedas sociais é o papel que ambos os instrumentos podem representar para a inclusão financeira. A despeito da inexistência de experiências duradouras para uma avaliação empírica no Brasil, acreditamos que há potencial sinergia entre esses dois tipos de instrumentos de pagamento. Para avaliar o potencial de uma moeda social digital via celulares, fizemos entrevistas com gestores de bancos comunitários sobre a percepção de aceitação desse modelo inovador em suas comunidades. Como base teórica articulamos o conceito de *framing* de transformação, originado da perspectiva de *frames* interpretativos de ação coletiva.

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Como resultado, identificamos um discurso transformacional em que os gestores dos bancos comunitários criam novos significados e entendimentos sobre esse modelo de sistema de pagamentos emergente.

Palavras-chave: Moedas sociais; Bancos comunitários; Pagamentos móveis; Ação coletiva

Resumen

El propósito en este artículo es evaluar el potencial para la adopción de un modelo de moneda social digital por medio de teléfonos móviles. Aunque exista una literatura significativa tanto sobre monedas sociales como sobre pagos móviles, son pocos los estudios relativos a monedas sociales en operación por medio de pagos móviles. Un aspecto importante de la literatura, sea con relación a los pagos móviles o la moneda social, es el papel que ambos los instrumentos pueden representar para la inclusión financiera. A pesar de que apenas existen experiencias concretas para una evaluación empírica en Brasil, se supone que hay potencial sinergia entre estos dos tipos de instrumentos de pago. Para evaluar el potencial de una moneda social digital operada por medio de móviles, se llevaron a cabo entrevistas con directivos de bancos comunitarios sobre la aceptación de este modelo innovador en sus comunidades. Como base teórica, se articula el concepto de *framing* de transformación, que parte de la perspectiva de marcos interpretativos de acción colectiva. Como resultado, se identificó un discurso de transformación en el que los directivos de los bancos comunitarios crean nuevos significados e interpretaciones de este modelo de sistema de pago emergente.

Palabras clave: Monedas sociales; Bancos comunitarios; Pagos móviles; Acción colectiva

Introduction

The emergence of new forms of local development in Brazil, in particular community banks and social currencies, made it possible to learn a lot about alternative economic forms that promote humanity and solidarity in place of a pure consumption logic (Singer, 2009). If money is, above all, a social phenomenon (Lietaer & Primavera, 2013), social currencies may be understood and considered in such a way as to create sustainable exchange relationships, thus enabling financial inclusion and the consequent reduction in poverty and an improvement in the quality of life of needy populations. The incorporation of an ICT (information and communication technology) infrastructure to the concept of social currencies could make this means of payment more efficient, thus contributing even greater success to the scale of their operations.

Given the emergence over the last decade of payments via devices like mobile phones, particularly as an instrument of social innovation and poverty reduction (Duncombe & Boateng, 2009), the opportunity arises to integrate these two concepts, social currencies and mobile payments, which despite still moving along separate tracks have the potential to converge to common solutions. So the objective of this article is to evaluate the expectation for the introduction of a digital social currency model based on the use of mobile phones from an analysis of the discourse of community bank managers who are already operating a social currency in their communities.

To do so, we shall analyze the discourse of the managers of thirteen community banks, based on the concept of transformational frames (Benford & Snow, 2000). The article is divided into an initial discussion about community banks, social currencies and mobile payments within the context of financial inclusion, followed by a presentation of the concept of individual framing (Goffman, 1974) and collective action framing (Snow, Soule, & Kriesi, 2008). Finally, an analysis will be carried out of the potential of mobile digital currencies and how they fit with the discourse of community bank managers, with regard to a transformational appropriation logic of their meaning and the use of mobile payments like digital social currency.

Community banks

Created with the objective of contributing to the process of financial inclusion, community banks are not-for-profit institutions, which provide financial products and services that support the development of local economies in needy communities (Freire, 2013). In Brazil, despite not being supervised by the Central Bank, community banks are legally authorized in the country by the Law 9.790, of March 23, 1990, which authorizes them to promote non-profitable experimentation in trade and credit by means of alternative production systems. They are authorized to form partnerships with other public or private entities in order to promote financial inclusion in the communities in which they operate.

The first community bank in the country, Banco Palmas, started operating in January 1998 in the Conjunto Palmeira, a housing complex with 30,000 people located on the outskirts of Fortaleza, the capital of the state of Ceará, with an initial capital of R$ 30,000 (or US$ 26,000 at the time) (Jayo, Pozzebon, & Diniz, 2009).

The neighborhood association of the Conjunto Palmeira (ASMOCONP), which started the project and put in practice the idea of Banco Palmas in the community, soon ensured that microcredit as a central part of an important number of activities directed at generating local development. The central idea consisted in a so-called "solidarity network", which starts with a focus on the community and the neighborhood's social capital.

Right from the outset, Banco Palmas established itself as a model Community Development Bank, especially because of two partnerships that occurred in 2004 and 2005, and that helped extend its methodology to various other regions of the country. The first of them was with *SENAES*, the National Department of Solidarity Economics of the Federal Government, and the second with Banco do Brasil, one of the biggest commercial banks in the country (Garcia, 2012).

One of the fundamental elements of the community bank model disseminated by Banco Palmas is the use of a social currency. Whereas, on the one hand, microcredit had already established itself as an alternative for combatting poverty and, on the other, the use of social currencies (also called complementary or alternative currencies) proved to be an interesting strategy in this field, the combination of the use of a social currency jointly with microcredit was the great innovation brought by this Brazilian model for strengthening the local economy and financial inclusion (Singer, 2009).

Social currencies

A common characteristic of the model adopted by most of the more than 100 community banks that operate in Brazil is the use of social currency (Neiva et al., 2013). Despite being recognizably the result of various international experiences with different purposes (Michel & Hudon, 2015), community banks in Brazil played a leading role in spreading the social currency model (Siqueira, Mariano, & Moraes, 2014). Designed to be a payment instrument with circulation restricted to a particular geographic region, social currencies are used by community banks for financing small economic activities within the community in which they circulate, with a focus on encouraging local development and social transformation by protecting the economy and local cultural processes (Blanc, 2006; França Filho, 2004; Freire, 2013; Lietaer & Primavera, 2013).

With this purpose, the microcredit model adopted by the community banks uses a "proprietary currency" which circulates in parallel with the official currency. In the case of Banco Palmas, for example, this currency is the "*Palma*", which circulates jointly with the "*Real* (R$)", and is widely accepted by local traders. These social currencies are backed by *Reais* on a one-for-one basis, which means that for every *Palma* in circulation in the community there is one *Real* held as collateral in reserve as a guarantee of free convertibility. Some examples of social currencies adopted by community banks are: the Maracanã Castanha, Cocal, Guará, Girassol, Pirapire, Tupi and Sol (Freire, 2013).

Mobile payments and financial inclusion

In parallel with but unrelated to the community bank and social currency movement, the evolution in mobile payments – digital payments by mobile phone – has also been discussed as an important driver of financial inclusion, particularly in developing countries (Duncombe & Boateng, 2009; Dancey, 2013; Schulze, 2014; Albuquerque, Diniz, & Cernev, 2014). The main argument for considering mobile payments as being a driver of financial inclusion lies in the fact that mobile devices have wider penetration than bank accounts in developing countries, making them, therefore, an attractive alternative to the problem of bank access among the low income population (Bader & Savoia, 2013).

Just as the community banks in Brazil and their social currencies took their inspiration from Banco Palmas, the use of mobile payments as an instrument of social inclusion is largely inspired by the case of M-PESA, a financial service made available in Kenya by mobile phone operator Safaricom. By way of M-PESA, millions of Kenyans with restricted access to the traditional financial system carry out various services that used to be exclusive to banks, using their mobile phones (Jack & Suri, 2011; Mas & Radcliffe, 2010; Schulze, 2014). The service allows users to transfer money and carry out other simple financial services at minimal cost and without requiring a formal bank account (Chandy, Dervis, & Rocker, 2012). However, despite the success of the mobile payment model in Kenya, it is not known up to what point the success of the M-PESA initiative is not due to a set of extremely specific factors and conditions (Mas & Morawczynski, 2009), which would mean that implementation in other locations, and specifically in Brazil, would need a different business model (Schulze, 2014).

At the same time, we have an important cultural question of heavy mobile technology use in Brazil, which could be a positive factor for the adoption and development of mobile payments within the context of financial inclusion. According to Teleco (2015), the density of mobile phone lines per 100 inhabitants in July/2015 was 137.6, a rate that is high even in comparison with other countries. Data from the ITU (2013) show that developed countries have a density of 123.6, compared with 84.3 for developing countries. The world average, in its turn, is 91.2, while regions like Africa have a density of 59.8 and the Americas, 105.3.

Despite the fact that both the use of social currencies and mobile payments might represent an important role in the process of financial inclusion, there are few studies that link the synergy potential that exists between these two instruments of payment. In one of these rare studies, Ramada-Sarasola (2012) argues that the adoption of mobile payment methods at the local level may increase the speed of currency circulation and the local monetary multiplier, thus allowing greater local economic development and so representing an alternative to the traditional financial system.

Another important factor is the emergence of a legal framework governing mobile payments in the country, which began to consolidate with the approval of Law 12.865 of 10/09/2013, subsequently regulated by the Brazilian Central Bank on 11/04/2013 via two resolutions and four circulars. This whole framework regulates the arrangements and payment institutions that form part of the Brazilian Payment System (*SPB*) and defines the payment arrangement, the originator of the payment arrangement and the payment institution. The central objective of this regulation is to enable these operations to be done with mobile phones in order to include the low income population financially.

According to this regulation, "the Brazilian Central Bank, the National Monetary Council, the Ministry of Communications and the National Telecommunications Agency will encourage, within the scope of their competences, financial inclusion by way of the participation of the telecommunications sector in the supply of payment services and, based on periodic assessments, they will be able to adopt measures for encouraging the development of payment arrangements that use access terminals to the telecommunication services that are the property of the user."

Therefore, it is to be expected that there will be a strong growth in the use of mobile payments in Brazil, mainly aimed at including that layer of the population that today has no access to financial services.

The use of mobile payments along with a social currency might represent an innovative and transformational path that has not yet been seen in any experiment that has been studied, either involving mobile payments or microfinance. It is precisely the perception of the appropriation of the discourse of this trend that has become fashionable in the country among some of the main managers of community banks in Brazil, which, since the origins of the model disseminated by Banco Palmas, has had technology and a partnership with the banking sector as part of its DNA, which this study tries to understand.

Narratives, individual frames and collective action frames

In harmony with the study of a possible digital currency functioning as a social currency, we need to understand the perception of the possible future managers of these currencies in community banks. Literature shows that the adoption of mobile payments may gain in scale in such a way as to be used by the whole population and also for local development (Chandy et al., 2012; Dancey, 2013; Mas & Radcliffe, 2010; Ramada-Sarasola, 2012; Schulze, 2014), which makes the analysis of the discourse of the managers of community banks particularly interesting for two additional reasons: (1) understanding the potential and the expectation of the use of the new technology as a digital social currency, modernizing the use of the paper currencies currently used by community banks and creating collective forms of cooperation between them; (2) understanding the perception of managers who deal with needy communities in which the population is already more familiar with the concepts of financial inclusion, starting from the assumption that community banks can be a relevant collective player for adopting the technology of mobile payments.

Therefore, as the theoretical basis for our study, we focus on the mechanism called transformational framing, proposed by Benford and Snow (2000). The name 'framing' is given to the work of constructing meaning which occurs within the collective action logic of social movements (Gamson, Fireman, & Rytina, 1982; Snow & Benford, 1988; Snow, Rochford, Worden, & Benford, 1986).

This concept, which is used in other areas of knowledge, was also known through the studies of Goffman (1974) in sociology, who defines frames as interpretative schemes that enable individuals "to locate, perceive, identify and label" occurrences within their lives and the world in which they live (p. 21). In other words, frames are the way in which we see the world, the framing, in the almost photographic sense of the word, with which we see reality and with which, based on a certain angle, we create meaning and interpretations of it. They are cognitive structures that mold the representation of reality and the perception of it, which may end up being unconsciously constructed and disseminated in society.

Snow et al. (2008), however, distinguish frames from collective action frames for interpreting day-to-day happenings. According to the authors, collective action frames may have the same interpretative function as the frames defined by Goffman (1974), but with this occurring by way of functions, like focusing on and the articulation and transformation of a particular object of orientation, linking different points of a situation in such a way as to focus on a particular preferential aspect of meanings, or on a narrative language, telling one story instead of another. In other words, in this case the intentionality of the players is assumed in the construction of the discourse through their own translations and resignifications of what they understand by the representation of reality and the perception of it.

Along the same lines, Benford and Snow (2000) state that frames of collective action are "intended to mobilize potential members and constituents, to gain the support of viewers and observers, and to demobilize antagonists" (p. 614). For them, there are several processes and dynamics of framing, and between them there is transformational framing, which is an alignment process used in order to reconcile the interests and interpretive frames of organizations with those of their current and future resource providers by "changing old understandings and meanings and/or generating new ones" (p. 625).

Johnston (2002) establishes some key elements for frames, such as content, cognitive structure, sharing by different individuals, fixed and emerging elements, and their text-based, spoken or written structures, in order to represent symbols and their structures.

Under a different conceptual lens, Maurer (2012) had already dealt with the issue of the distinct narratives and stories he discovered in international experiences of adoption and implementation of mobile payments. The author states that he found some recurring stories and narratives used to justify and explain the use of mobile payments, some of which are more transformational in nature and that saw mobile payments as a tool for fighting poverty through financial inclusion, while others were more commercial, seeing them as an opportunity, for example, for multinational companies to penetrate markets at the base of the pyramid, which is in line with the discussion of Prahalad and Hammond (2002).

Nevertheless, under the focus of collective action frames, we can say that even in the discussion raised by Maurer (2012), there were collective players belonging to the ecosystem of mobile payments, such as credit card companies, telecommunication companies, among others, which had certain interpretive frames and, therefore, influenced the way in which the use of mobile phones as means of payment would be viewed and what discourses would be used to justify the adoption of this technology. Nevertheless, this study seeks to analyze community banks in

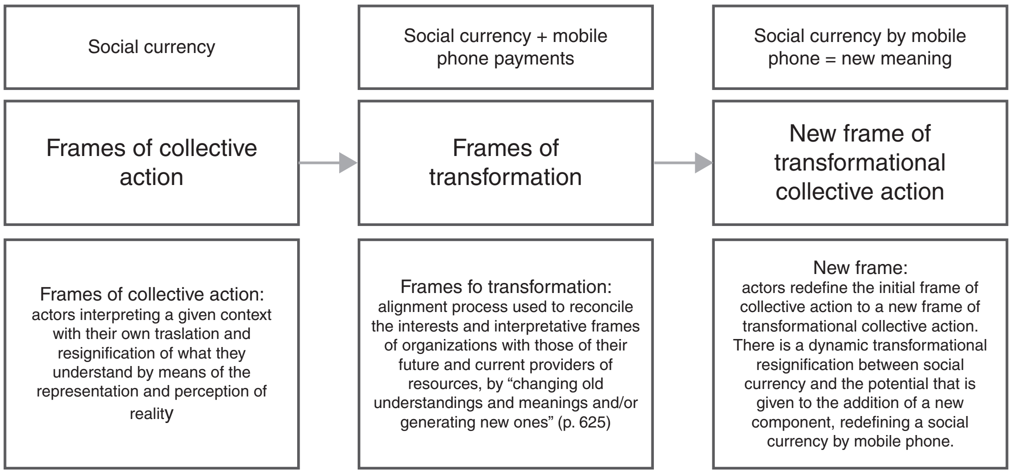

Fig. 1. Theoretical framework used based on the concepts of frames.

their role as collective players, and, based on this, to investigate the discourse adopted by the managers of different community banks in Brazil.

Therefore, this article brings together the concepts of collective action frames and transformational frames to discuss a transformational collective action frame, which is the resignification of our understanding of old understandings as new understandings within a new collective action frame, as shown in Fig. 1.

What we seek to observe through this conceptual lens is whether the discourse of the interviewed managers of community banks regarding the use of digital social currency is grounded within the transformational logic of creating new meanings and understandings as proposed by the transformational framing concept.

Methodological approach

Given the virtual absence of long-term experiences of digital social currencies and of published studies on this interesting social innovation, this article speculates on the potential integration of a platform for mobile payments with a social currency system (Dahlberg, Guo, & Ondrus, 2015; Diniz, Cernev, & Albuquerque, 2013).

Thus, this study evaluates the potential of the combined use of a social currency with mobile payments, which we will call digital social currency. For this, the research method consisted of semi-structured interviews with the managers of community banks, which operate with social currencies in poor communities in Brazil. These interviews were conducted with thirteen managers from five states (AM, CE, ES, AP and SP) plus the Federal District, who were present during the Third National Meeting of the Brazilian Network of Community Banks held in Fortaleza, between March 12 and 15, 2013. All interviews were recorded in audio and video and lasted from 40 min to one hour.[1] Interviewees were selected according to their availability, but in all cases we checked whether the community bank at which the respondent worked had been operating with social currencies for at least one year (Table 1).

Table 1
Profile and geographical distribution of interviewees.

Territorial scope and sample used	13 community banks 14 respondents	Community Banks of 6 units of the federation in 4 regions of the country: AM (1), SP (5) CE (4), ES (1), DF (1), AP (1)
Profile of respondents	Managers of community banks	All respondents are residents of poor neighborhoods, where their respective community banks are located. There were four men and ten women, with apparent ages ranging between 25 and 70 years

Source: the authors.

The interviews followed a five-topic script: (1) social currency use in the community, (2) difficulties in the management of paper-based social currency, (3) mobile phone use in the community, (4) the potential of using mobile phones for payment, (5) potential acceptance of a mobile phone-based social currency. These five topics, which made up the basic script of the interview, aimed to put into context an object that does not exist yet for these managers – the mobile phone-based social currency. We tried, therefore, to capture how each interviewee developed their own conception of this imaginary object, based on their experiences at work with paper-based social currencies, which actually did exist for all of them.

The questions encouraged the interviewees to point out not only the expected advantages of this potential deployment of digital social currency in their communities, but also the possible difficulties, resistance, infrastructure issues and cultural habits that they would face. Importantly, unlike studies that use the TAM, Technology Acceptance Model (Davis, 1989; Schierz, Schilke, & Wirtz, 2010), this study is grounded in a different theoretical basis, which is why it focuses on methodological

[1] A 10 min video based on an edition of these interviews is available at https://www.youtube.com/watch?v=-YAiv5EFtoo.

terms, on how the players see and perceive the usefulness of a mobile phone-based social currency through the lens of their own worldviews (relying on the concept of frames), rather than trying to assess the perceptions of compatibility, safety, usability, among other concepts, that would be addressed using TAM.

The methodology used in this study, therefore, aims to understand how old concepts are resignified into new ones based on the interviewees' discourse. This is why it was correct to adopt discourse analysis techniques, because we want to identify relationships permeated by mechanisms that are hidden within language (Cappelle, Melo, & Gonçalves, 2011). To identify the "transformational discourse" embedded in the incorporation of a new technology hitherto unknown by the interviewees, the text of each interview was analyzed separately. Then, the passages that could be grouped into one of the five topics presented above were selected, in order to highlight the views of community bank managers about the potential of digital social currency in their communities.

The managers' discourses

Based on the interviews with community leaders, we were able to collect a range of perceptions on what they think about this innovative way of coupling social currencies and mobile payments. In the interviews, the managers discussed the role their community banks played in local development, and how social currencies helped keep money circulating in the community, about the difficulties of managing paper-based social currency, about the use of mobile phones and the potential for the adoption of mobile phone-based payments and social currency. The following are selected statements by managers on the topics covered in the interviews.

On the acceptance of social currency

In their discourse, community bank managers clearly present how they see the role of social currencies in their community:

Manager – Banco Liberdade (AM):
"*The wealth we produced here was usually gone away and our community remained poor. Now we've been running the bank for a year and a half, and the {social] currency came to keep this economy [locally].*"

Manager – Banco Apuanã (SP):
" *With the social currency the community's going to buy there in that [local] market. It's not going to go to that big market, which, apart from being far away, would mean that [the wealth] would leave the community. They're going to sell more and the storekeeper's going to earn more and his business is going to grow.*"

According to the managers, although the benefits of social currency were demonstrable, they needed to work hard to promote its acceptance in the community. One of the statements clearly illustrates the initial mistrust:

Manager – Banco Tonato (SP):
"*Other people say 'why invent this other money if we already have a money that is the real?*"

This distrust that customers had was gradually overcome, as acceptance of the social currency grew among merchants:

Manager – Banco Orquídea (SP):
"*If you have three shopkeepers who agreed to use it and ten people in the community who understood it... that set off a process that went from one to the other, and today we have several people who seek out the [community] bank.*"

In addition to being essential to the strategy for disseminating the social currency, the alliance of community banks with local merchants helped ensure not only the adoption process but also had a multiplier and educational effect on the rest of the community:

Manager – Banco Liberdade (AM):

"*There's a samba-school there that was the main partner and was also one of the first to accept the [social] currency. You can buy drinks with the currency, you can buy your Carnival costumes (...) and that drove acceptance of the currency.*"

Manager – Banco Paulo Freire (SP)
"Now the merchants accept the currency. We have a good portfolio of merchants who accept it. And they themselves promote it, explain to people that the objective is to bring wealth to the neighborhood."

Manager – Banco Tupinambá (PA)
"There's very good acceptance of social currency in the community. Why? Because the social currency is guaranteed, there's a fund behind it. (...) They don't find it difficult to accept social currency. Even establishments that are not registered accept it."

On the difficulties of managing paper-based social currency

Managers also recognize that, despite its advantages for the community, paper-based social currencies present clear management difficulties. It is evident from the interviews that the fact that the currency is paper-based hinders adoption:

Manager – Banco Sertanejo (CE)
"Currently we're having a problem with the social currency because of the material it's made of. It's not the social currency itself that's rejected – it's the material."

Manager – Banco Juazeiro (EC)
"The fact that it's a small and fragile piece of paper causes distrust. (They want to know) how long it's going to be valid for, or if someone keeps it locked away somewhere, whether they'll be able to exchange it in the future?"

Manager – Banco Padre Quiliano (CE)
"There were people who said 'Oh, it's not cool because... the quality [of the paper], right?' It's very different. For example, the real, *sometimes it's washed with some clothes but it's still*

perfectly OK afterwards. So I think that the few people who didn't accept it was because of the quality."

Even the circulation of social currency is severely compromised by the poor quality of printing on paper:

Manager – Banco Sertanejo (CE)
"We exchange the currency for the Real*, but when the customer used to arrive at the market to do their shopping, the shopkeeper couldn't pass on the currency as change – others wouldn't accept it. Why? Because of the material. So at the end of the afternoon, the shopkeeper would come and change the 'sabiá' ('thrush') – our currency – back into* reais *again."*

Manager – Banco Tupinambá (PA)
"One of the difficulties we face with businesses is their passing on the currency [as change], making it circulate. The currency reaches the establishment and from there it returns to the community bank."

Manager – Banco Tupinambá (PA)
"Making him understand that when he pays an employee partly in social currency then that currency stays within the community. Making him understand that when he gives the social currency as change, he's sending it back to the establishment."

On the dissemination and use of mobile phones in the communities

The widespread use of mobile phones, particularly smartphones with Internet access, is an evident reality even in the poorest communities (Teleco, 2015), like the ones in which the respondents live. The use of games, messaging and social networks has been positive for the dissemination of mobile devices:

Manager – Banco Tupinambá (PA)
"Today, talking is the last thing you do on a mobile phone. People use it a lot to send messages, the internet is used a lot... people use mobile phone internet a lot."

Manager – Banco Sertanejo (CE)
"They use the internet, games, text messages... it's used in so many ways, so many messages. People use it in a great variety of ways, don't they?"

Manager – Banco Orquídea (SP)
"Today what people most focus on with the mobile phone that has Android, all those apparatuses, is to go on Facebook and play games. We know that mobile phones are capable of much more than this."

On the potential of using mobile phones for payments

When asked about how they see the use of mobile phones as a means of payment, interviewees were very optimistic regarding the possibility of adoption:

Manager – Banco Orquídea (SP)
"It would be wonderful! Why? Because these people, instead of having to come to the bank to pay, they could do that on their phone. See how cool that is. That's a breakthrough, that's fantastic."

Manager – Banco Paulo Freire (SP)
"Ah, look, I think it would go down well. It would make your life easier. Instead of walking around with two or three cards, you just take your phone and make your payments. I think they'd accept that well."

Manager – Banco Tonato (SP)
"Nowadays we're always in a rush right? So if you could make a payment over the phone, and it's possible, I think that would be good."

On the potential for acceptance of a mobile phone-based social currency

Interviewees were also clearly optimistic about the possibility of a mobile phone-based social currency being adopted, especially if community banks become leaders in the dissemination of this innovation that turns the mobile phone into a payment instrument:

Manager – Banco Liberdade (AM)
"If we start, if this idea starts off in the community bank and begins to spread through the city it'll be a great step forward economically for the community and the city as a whole."

Manager – Banco Sertanejo (CE)
"We live in an age of the constant pursuit of diversity and innovation. That's the way I see it: if someone turns up in my town paying for things on the phone for everybody to see, that will attract attention, more people will adhere to it and it will expand quickly."

Manager – Banco Tupinambá (PA)
"I think with the mobile phone adoption is going to be much faster than it was with the social currency, which was a new concept. They already have mobile phones!"

Manager – Banco Tupinambá (PA)
"The guarantee is going to be that the credit will enter the person's phone. So who's it going to be good for? It'll be good for the store, that's going to sell more. It'll be good for the community that's going to have resources to buy the things it needs immediately right there."

Manager – Banco União Sampaio (SP)
"I think the issue of technology today attracts a lot of attention from the young. When you show them the technology, they become interested, and that's often a means to get into a discussion about other political issues, such as the solidarity economy."

Manager – Banco Estrutural (DF)
"Maybe it'll adopted easier than the [paper-based] social currency itself. Because [if it is in paper] people have to go to the bank to change it or ask for a loan. (...) Perhaps it

would work better than having to go to the bank to get the currency."

Manager – Banco Timbaúba (CE)

"*The problem wouldn't be convincing people to use it – the question would be whether their financial situation would be good enough to have credit in their phones to spend."*

Manager – Banco Tupinambá (PA)
"Everybody has a mobile phone, that's a well-known fact, so it's not difficult. The credit card is not so easy to get hold of, but a mobile phone is. So let's say you talk to a consumer in a community that has a community bank and that community has a different way of looking at the economy, because they have a tool there that's different. And so you come in with a new tool like this one, which I already have, and I only need to add something so I can use it. This is very innovative and I believe that in our territory it would be hugely successful."

Manager – Banco Sol (ES)
"Merchants always talked a lot about how they'd like to have a specific credit card, or a currency or card that is digital and not just the social currency. Commerce and merchants would like it a lot, and I believe, based on the conversations with the forum [the mechanism by which the community manages the bank] that consumers would like it too."

Discussion of the results

An important aspect of this study is our focus on the opinions of the participants on the demand side. Although we have not considered carrying out an adoption study, since at the time we conducted our study there were no experiences with a sufficiently long history to be analyzed from this perspective, we have assessed the potential of a mobile-based digital social currency based on the opinions and views of local players who would be involved in building a model of mobile payments. The opinions of these local players were registered through interviews with managers of community banks, who were asked to evaluate the potential of mobile payments that incorporate the functionality of social currency.

Considering the relative scarcity of cases that combine social currencies and mobile payment technologies, the managers' discourse was very positive regarding the potential acceptance of a mobile phone-based social currency in their communities. In a way, this contradicts the literature on technology adoption and, more specifically, on the adoption of mobile payments and digital currencies (Dahlberg et al., 2015; Liébana-Cabanillas, Sánchez-Fernández, & Muñoz-Leiva, 2014; Xin, Techatassanasoontorn, & Tan, 2015), which highlights adoption by various players in the ecosystem as an important constraint, especially when it involves technology innovations.

Moreover, in the discourse of community bank managers there was no manifestation of their concern about possible difficulties for adopting or using this model in their communities in the future, even when they were encouraged during the interviews to consider the potential problems that the adoption process might face. On the contrary, the prevailing opinion was that the introduction of a digital social currency could be quick and easy and would contribute to solving existing problems in the management of a paper-based social currency.

One thing all these discourses have in common is that they illustrate a transformational view, as all these managers start from the assumption that the mobile phone will serve as a means of payment for a social currency whose primary function is to transform and develop the community.

The view is transformational because it manages to transliterate concepts through the resignification of what constitutes a social currency to what a mobile phone-based social currency might mean, by inserting ideological and transformational factors. Managers of community banks recombine and resignify the concepts of social currency and mobile phone payments to create a new frame of transformational collective action of what a mobile phone-based social currency would be.

To emphasize the contribution of this study as having able to identify a new meaning for mobile payments, we can make a comparison with Maurer's (2012) work, in which it is suggested that there are four distinct discourses on the use of mobile phones as a means of payment. Maurer (2012) suggests the existence of four discourses that seek to "frame the discussion" of mobile payments projects.

For Maurer (2012), the first discourse is called the "Empowerment Story" and is voiced by those who see mobile payments as a way to empower the poor with mobile technologies. The second discourse is called the "Market Share Story", which emerges from the vision of those who want to expand the market for existing services on mobile platforms. The third is the "Commoditized Payment Space Story", and arises from concern about the profitability made possible by small transactions generated by mobile payments. The fourth discourse is the "Tulip Story", from those who believe that there is some exaggeration regarding the adoption of mobile payments, which is probably likely only to occur at some point in the future. Although the analysis is grounded in other methodological strategies, these discourses were identified from a logic that this article called "framing" because it aims to "frame" the discussion on mobile payments projects.

None of these four discourses, however, incorporates the idea of social currency that was investigated in the study presented in this article. This new discourse, which can be gathered from the interviews with community bank managers, identifies the resignification of what mobile payments can be when combined with a transformational logic aimed at creating social outcomes not only linked to their economic characteristics, but also to the logic of the solidarity economy incorporated into the practice of community banks. Table 2 shows the four discourses presented by Maurer (2012) with respect to mobile payments, plus a fifth discourse – that of the community bank managers.

The explicit combination of this new digital social currency model is a translation of the meaning of mobile payments, when compared to other known experiences. In the discourse about the use of mobile payments of the managers of community banks surveyed in Brazil, we can identify a very peculiar transformational relation. These managers seek to insert themselves in an emancipatory logic (Singer, 2009), appropriating and giving new

Table 2
Framing of discourses on mobile payments.

Discourses on mobile payments	Description
Empowerment story[a]	Mobile payments allow the poorest to have access to money and capital, leveraging the tremendous penetration of mobile phones in developing countries vs. the relatively low penetration of financial services in these countries
Market share story[a]	Mobile payments can reconfigure the money transfer market to provide financial access to all, expanding the market by including those at the base of the pyramid
Commoditized payment space story[a]	Focuses on changing the business model to fee-based financial services and telecommunications, taking advantage of the fact that millions of poor people around the world perform various small operations daily
Tulip story[a]	View that some players hold whereby mobile payments are just a “fad” that is unsustainable both in terms of profitability and in terms of poverty alleviation
Transformational collective action (new discourse identified among community bank managers)	The discourse of community bank managers, but adding ‘social currency’ as a transformational factor to ‘mobile payments’, giving new meaning to both concepts

[a] *Source*: Adapted from Maurer (2012).

meaning to the discourse of digital social currencies in such a way that the latter fit into a transformational frame that favors their use for local development.

The interviewed leaders highlight the role of social currency in the local development of their communities, as well as the work carried out by community banks for its dissemination and acceptance among residents and merchants in their communities. However, they also recognize that the use of printed paper-based social currency creates several operational problems such as high cost of issuance, low durability of the printed bills, bill misplacement and theft, besides all the other transactional costs involved in the management and supply of a physical means of payment. According to them, these problems of paper-based social currencies limit their function as a means of payment and thereby reduce their power to transform local economies.

However, according to the interviewees, a major problem of social currency relates to its physical medium. Paper notes are expensive, spoil quickly – resulting in a high replacement cost – can be lost or stolen, need to be produced by specialized printers with safeguards against counterfeiting, require sophisticated labor and logistics to distribute different amounts of the various notes of different face-value (e.g. 2, 5, 10), among other problems faced by managers of community banks. Managing the supply of a physical means of payment results in high operating costs. Moreover, being physical notes, they lack the scalability of virtual money, as there is in a normal bank account, for instance. Digital currencies also would allow for improvements in credit management, based on information on the circulation of the money among people and within that economy.

Despite these difficulties, these leaders expressed their confidence in the social currency model and believe that a digital version, particularly if implemented via mobile phone, could be an improvement, reducing some of the problems that occur with the printed version. Thus, these mobile devices would function as a digital social currency, allowing both the transfer of money from people to people (P2P) as well as the payment of bills, transfers from institutions to people, such as from the community bank itself to its customers (B2P), or from customers to local stores (P2B).

The discourses of the interviewed leaders reinforce the need to implement a digital social currency model that makes sense in their communities and, unusually for innovations involving relevant technological leaps (Dahlberg et al., 2015), they favor the inclusion of the current model to the mobile phone platform. When assigning new identities and meanings to this concept of digital social currency, they point to an alternative that has not yet been considered by other actors, who have been unable to find a viable model for the economic inclusion of Brazilian low-income groups via mobile payments.

It is also worth noting the absence, in the interviewees’ discourses, of concern about possible restrictions and problems that could arise with this type of technological solution, a fact that may also reflect a lack of experience of these managers in this subject and technology, in addition to the absence of a more concrete business model and technology solution that permits a more tangible assessment of the pros and cons of this innovation. Identifying this initial acceptance, however, shows there is both potential demand and, importantly, non-rejection within any possible adoption and introduction process.

As mobile phones are widely used in the poor communities in which community banks are located, according to the interviewed managers, potential users already seem to be familiar with a wide variety of mobile applications, which facilitates the adoption of new functionalities, as would be the case of a payment app or payment commands on the device. Interviewees said they were supportive of the concept of mobile payments and, although they still do not have a clear idea of how to go about it and of the possible difficulties, they approve of migrating from the current model of social currency to a mobile payment platform.

An interesting point that can be seen from the interviews is the very confident discourse regarding the potential adoption of mobile payments in general, and of digital social currencies in particular within their communities. Even though they are unfamiliar with the subject because it is immaterial to them and not supported by any concrete example, when questioned about the possibility of such a mobile payment system being adopted, their discourse has clear signs of transformational resignification, appropriation and of the creation of its own identity for this digital social currency model.

Moreover, in line with Ramada-Sarasola’s (2012) views on the possibility of using mobile payments for local development between two different locations, one possible cooperation among the interviewed managers of community banks, who represent different regions of the country and have a relatively large user-base, in order to have a transformational collective action, would be to allow the use of a digital social currency that was at the same time common to banks in terms of infrastructure, and that would possibly enable exchanges and synergies between the different communities, without, of course, giving up their local circulation character, but having lower management costs and an easier and possibly integrated, money supply management.

In parallel, the use of mobile payments as a digital social currency would enable the creation of a database with a record of financial transactions and patterns of spending that would be larger and more practical than any that exist today for the managers of community banks, enabling more sophisticated lending and risk management, besides creating an understanding of community money flows that would permit production credit to focus even more on meeting the demands of the population. This could enable flexible credit offerings, even from formal financial institutions, as well as other financial services such as savings and insurance, given the access to financial information on spending and consumption.

Final considerations

This study evaluated the potential of a mobile social currency from the perspective of the managers of some of the leading community banks in Brazil, in addition to observing how this technology can be appropriated and redefined in their discourse in order to provide an alternative to the classic mechanisms for financial inclusion.

The study also allows one to speculate on the transformational potential and the positive outlook regarding the coupling of a mobile payments platform with a social currency system and suggests that further research be done in order to better understand adoption factors and possible models for implementation of mobile payment projects for financial inclusion.

The theoretical model used – collective transformational framing – as proposed by Benford and Snow (2000), allowed us to capture the essence of the interviewed managers' discourses, focusing on how they constructed meaning within the collective action logic of the social movements to which they belong. The choice of this theoretical model was also appropriate because we are dealing with an object, digital social currency, which does not actually exist and whose analysis could only be captured through a conceptual lens that could identify the elements that are only in the imagination of those interviewed.

The contributions of the study presented in this article are of two categories. The first, of a theoretical nature, is to have employed a model that had not yet been applied to studies of mobile payments or social currencies. As stated by Benford and Snow (2012: 615), frames of collective action are designed to be used to share the understanding of situations that are problematic and "in need of change". Used as an instrument for alternatives to create mobilization conditions, this concept was used in this study as a tool to promote reflection on the adoption of a tool that has a potential change impact. In this respect, therefore, there is some degree of theoretical innovation in the way we applied it here.

The second contribution is of a practical nature. This contribution allows us to evaluate the degree of openness to the digital social currency model by managers of community banks, who already operate with a paper-based social currency. Upon hearing the statements collected in the interviews, it is impossible to reach anything other than a favorable view regarding initiatives to promote experiments with a mobile phone-based digital social currency. Of course, only practical experiments will allow us to have a clear assessment of the real potential of this model.

Limitations of this study, while important, do not invalidate its exploratory nature. First, we interviewed only one group of players among the several who should be involved in a real deployment process. Although the managers of community banks are a group of critical importance, it is impossible to form a complete opinion of the model's potential without hearing other stakeholders, especially customers and merchants – the users of this model; and companies that would provide the technical support for the operational infrastructure of the digital social currency, as well as card and mobile operators – external agents that could influence the implementation process. Another possible limitation is that data collection was through spontaneous interviews during an event that involved the presence of more than one hundred community banks. Apparently, those who volunteered to participate in the interviews were the managers of the most active community banks, with the most extensive cases of social currency implementation. It is known that there are many other community banks (our interviewees represent only about 15% of the entire population) and we cannot tell whether those who were left out share the views of those who were interviewed.

Future studies related to this subject could involve the players absent from this study, but could also further expand the concepts involved in the discussion of the adoption of digital social currencies, employing theories and conceptual approaches that could provide a broader view of this process, which is inevitably very complex and requires the coordination of players with very diverse interests. One aspect that should not be overlooked in future studies is the discussion of how mobile phone-based digital social currencies will (or will not) succeed in maintaining the character of financial inclusion and local development that seem obvious in their paper-based versions.

Conflicts of interest

The authors declare no conflicts of interest.

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