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Building trust in relational services: The analysis of a sharing service between neighbours

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Abstract

This article presents a study about a crucial interpersonal quality in relational services: trust. We analyse the trust-building process that enables a sharing service between neighbours called “*Tem Açúcar?*”. Based on literature review on service design for social innovation and sociological aspects related to trust, we describe the service process three-level segmentation: trust in the enabling platform (product-service system), trust in the neighbour (peer-to-peer) and trust in the local network (neighbourhood). It is concluded that trust-building occurs both top-down and bottom-up among participants and how it turns into confidence throughout the process. This study contributes to investigations not only about collaborative and relational services but also about issues related to social behaviour, dematerialization of consumption and quality of life.

KEYWORDS: service design, social innovation, relational services, sharing, sustainability

Introduction

This article presents the case of “*Tem Açúcar?*” (“Do you have sugar?”), a sharing service that aims to support interactions between neighbours. It uses a platform to enable peer-to-peer collaborations and resource sharing within one neighbourhood.

Therefore, the service suggests a paradigm shift in people’s routines by fostering the shared use of objects previously considered as individual resources.

This study analyses the conceptual, operational and interpersonal levels of the service with the aim to identify its trust-building enablers and processes. It contributes to the research that work in the intersection between service design and design for social innovation and sustainability (Manzini, 2015), with particular focus in the characteristics and dynamics of the collaborative and relational service models (Jégou & Manzini, 2008; Cipolla & Manzini, 2009). These two service models require particular attention to the qualities of interpersonal interactions when designed.

Theoretical background

Collaborative services, relational qualities

In recent years, design has been a fertile field for the development of social innovations. Social innovation generates changes in people's ways of living and doing, fostering sustainability every day (Manzini, 2015). Social innovations were analysed by design researchers and two service models were identified: the collaborative and the relational services (Cipolla & Manzini, 2009).

Services are classified as collaborative when the user ceases to be passive and begins to contribute actively with their own skills, social resources and individual capacities (Manzini & Vezzoli, 2011). Collaborative services require participants to be active co-producers of a commonly recognized benefit (Jégou & Manzini, 2008).

Relational services are a specific kind of collaborative service on which participants are not only active co-producers but also need to interact with others in a highly personalized way, and this requires specific interpersonal qualities to operate, such as trust and familiarity (Cipolla, 2012). The construction of relational interpersonal qualities is related to how open people are to interact with each other, and the role of design is to enable such openness between participants (Cipolla & Manzini, 2009). Both service models are structured in a way that each action performed by one participant reciprocally benefits all others.

Collaborative and relational services require an enabling platform (Jégou & Manzini, 2008), such as the case addressed in this study (*Tem Açúcar?* platform), creating a fertile environment so that collaborative and relational qualities can develop.

Building trust

Trust is an essential interpersonal quality for collaborative and relational services.

Participants need to trust that each one will perform their own role in the co-production process, and if they feel confident in the model introduced, they will feel motivated to be active in the collaborative network. Therefore, the analysis of the trust building processes is crucial for the research in collaborative and relational services.

Trust is defined by Rotter (1967), through the lens of sociology, as an expectation held by a person or a group of people that the word or promise, whether expressed verbally or in written form, will be maintained and fulfilled by another person or group of people.

According to Brei & Rossi (2005), trust is not a determining factor for the occurrence of a sharing habit, but it is understood that its importance varies from case to case, that is, there will always be a minimum degree of trust necessary for the sharing to occur.

The concept of confidence is more associated with the sense of belief. As a sequence of similar experiences occur, people tend to believe that the next will occur just like the previous, following their expectations. The difference between trust and confidence is that the sense of trust is related to risk, when there is low familiarity; on the other hand, confidence is based on higher levels of familiarity, usually associated with people and entities (Siegrist, Earle & Gutscher, 2005).

According to Rotter (1954, 1967), when a person has a higher degree of trust in something or someone, it tends to generate expectations on new experiences with them, and the more similar experiences, more confidence grows, extending this value to similar situations without having previous contact with the actors.

Methodological framework

This paper presents an exploratory case study segmented into the following phases:

1. Observation - the case was first mapped to identify its purpose;

2. Creation of a hypothesis - "Stimulating trust building between users is indispensable in sharing services";
3. Empirical research through Service Safari - Immersion using *Tem Açúcar?* app to collect data through service experience;
4. Results and discussion – Presentation and analysis of collected data.

The study is based on literature review that addressed the main aspects of service design for social innovation, collaborative organizations and relational qualities. The relational qualities are analysed based on Rotter's interpersonal trust scale (1967).

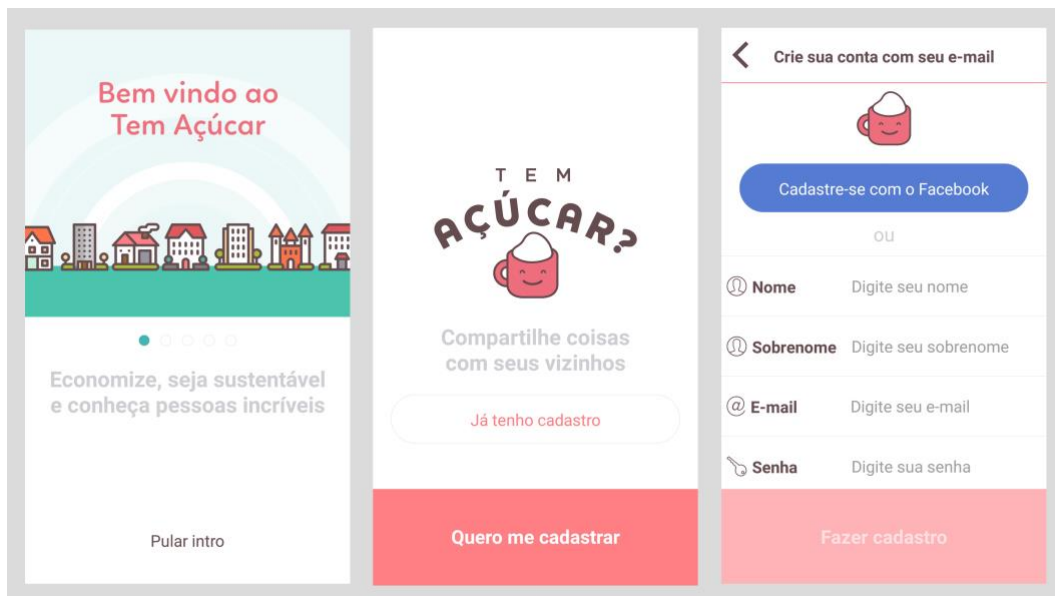
The following tools were used to analyse the proposed case:

- User Journey - Trace user actions required within the platform;
- SWOT Matrix - Identification of strengths, opportunities, weaknesses, and threats of the concept of the sharing platform;

A specific tool was developed for this study to analyse the service architecture and its trust-building process. It was called 'Trust Segmentation Table' and it presents the constructs needed to foster the relational quality between participants. It is segmented into three levels: platform, neighbour and network. The platform level presents the constructs for the user to establish the trust link with the enabling platform, the neighbour level presents the constructs for the trust between users (peer-to-peer) and the local network level focuses on the relationship between a single user and the network, how the user establishes trust in his neighbourhood.

The main aspects observed in this analysis of the trust-building were the initial contact of the user with the service, the factors that contribute to increase trust degree and how the growth of this type of (sharing) service occurs.

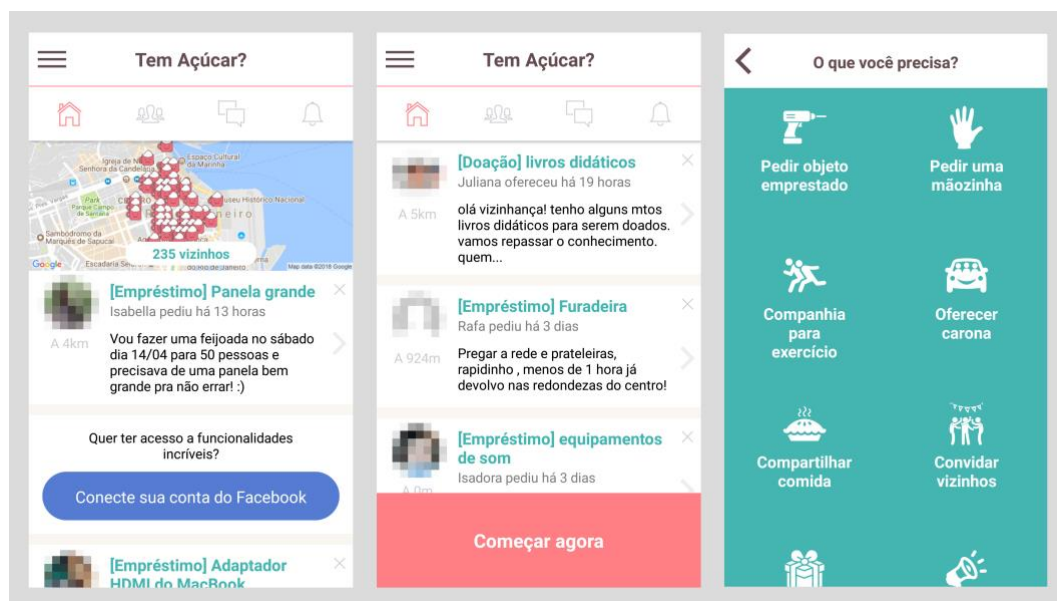
Case study



Source: Tem Açúcar (2018)

Figure 1 – *Tem Açúcar?* introduction, log in and register screens

Tem Açúcar? is a platform created in 2014 by Camila Carvalho, a Communications student engaged in the sustainable consumption cause. It enables the sharing of objects between neighbours, establishing a local collaboration network. The service can be accessed through an app (for smartphones and tablets) available free of charge (Tem Açúcar, 2017). After registering and typing an address, the user views a map of the region with the number of people registered on the platform and a list of requests made by the neighbours, indicating the distance between them. The platform segments the neighbours' requests according to the following categories: ask for an object, help to do a task, company for a walk, offer a ride somewhere, share food, invite neighbours, donate objects and other.



Source: Tem Açúcar (2018)

Figure 2 – Neighbours' requests timeline and categories

The service was structured to combat hyper-consumption and lack of interaction among residents of the same neighbourhood, two problems that mainly afflict metropolises today. Through the question “Why buy when you can share?”, the platform invites users to reflect on the parallel between ownership and use and the social/environmental impact generated by consumption and discard.

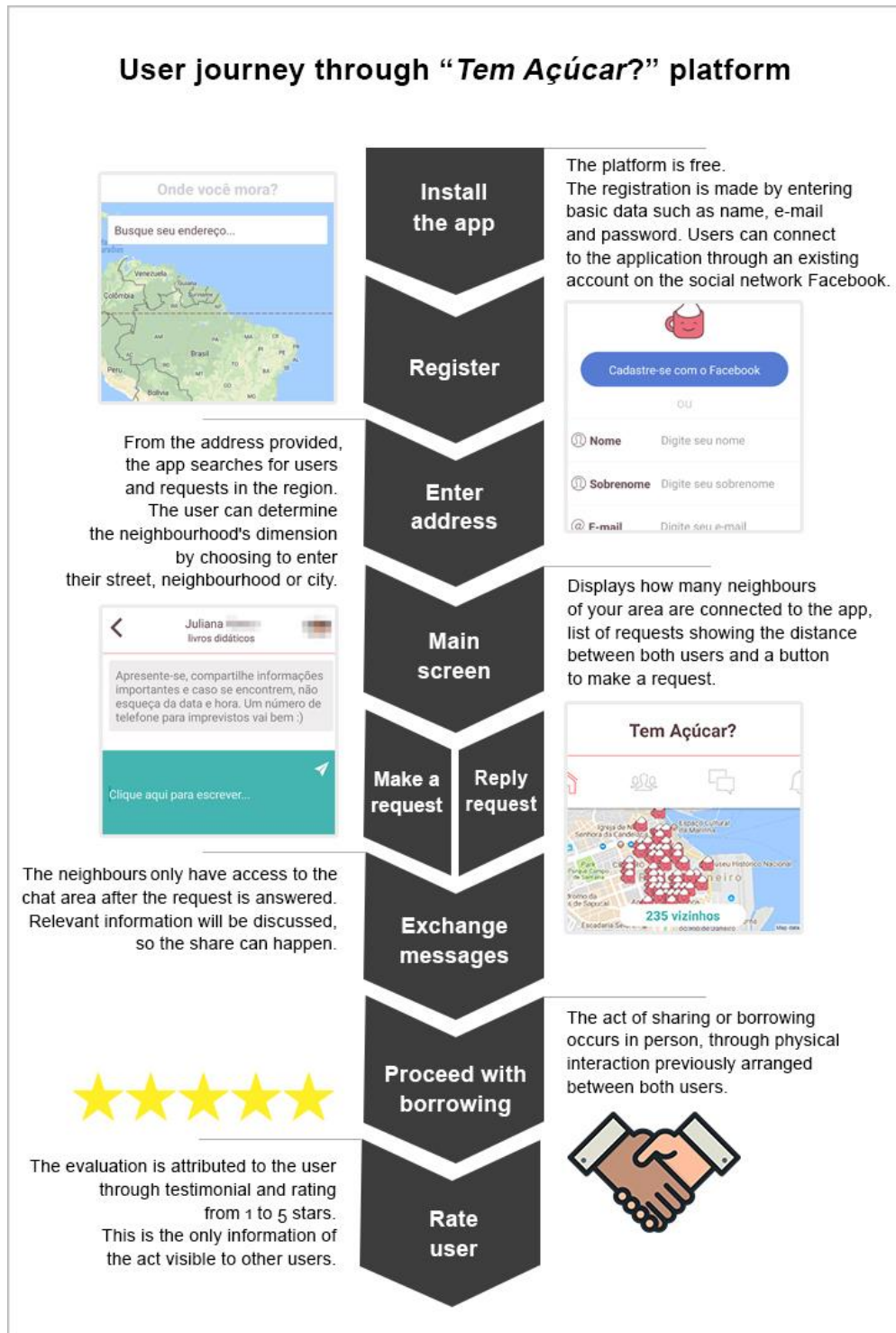
The service values are based on the ideas that being is better than having, access is better than ownership, collaborating is better than competing, interdependence generates more results than individualism and that abundance is the result of relationships built (Tem Açúcar, 2017).

According to the creator, the idea was first prototyped in a condominium complex where she lives. Residents could share their needs through a paper worksheet placed in a common area, so those who were able to lend or help could get in contact. (Draft, 2015).

Initially, it was developed as a website and it reached 22,000 users from all over Brazil (O Globo, 2015). The current version has already surpassed the mark of 10 thousand downloads since its launch in March 2017.

Results

Following an initial phase of observation using the service’s app, website and press data, it was possible to summarise into the User Journey below (Figure 3) the necessary steps for a new user to start acting on the service platform.



Source: Adapted from Stickdorn & Schneider (2010), *Tem Açúcar* (2018) and ShareIcon (2018)

Figure 3 – User journey through *Tem Açúcar?* platform

Although *Tem Açúcar?* is a free tool and does not require personal document numbers, there are some restrictions to use it. It is not allowed to sell products, advertise rental of physical spaces (rooms, houses, apartments or parking spaces), ask for money, lending other people's services, among other inappropriate requests (O Globo, 2015).

Users only have access to requests' description, as well as information like name, photo and the distance between users in kilometres and the user rate by others who have already had experiences with that person. The evaluation consists of testimonials and 1 to 5 stars review. When a user answers or places a request to a neighbour, a private messaging function is enabled so they can talk and schedule the meeting. It is possible to denounce a neighbour or silence notifications from a specific user to no longer receive requests coming from that person. By connecting a personal Facebook account, it is possible to check friends in common with neighbours.

The service is connected to Google Maps but it does not work automatically through geolocation. It allows changing the address at any time, and if a user enters a region without registered users, it suggests inviting neighbours and friends to populate it.

Service Safari

An immersion in the service was performed during one month to collect data from the users' point of view. Requests for borrowing objects, professional service recommendation and donation of office articles were responded as well as requests for book lending and offer of computer articles for donation were addressed.

Three lending of objects (umbrella, book and decoration object for children's party) out of seven answered requests were successfully completed. The other demands were service recommendations, which is usually intended to analyse the cost/benefit ratio between various professional services and tends to be in the timeline for a long time. The process is fast and does not require a face-to-face meeting in these cases. Users tend to forget to mark it as concluded. Because of that, although the purpose has been reached, it is not possible to measure the service effectiveness.

One computer article donation (keyboard, power cable, network cable and HD) was made out of the two requests submitted. It allowed an increase of confidence in the respective receptor, which offered help with computer repair and maintenance when was necessary. The answer time for new requests may vary according to its aim and the stipulated location range at the time of submission. There is no way to change it once it has been submitted. If you want to modify its configuration, you need to cancel it and submit again.

It is believed this is a valid way to ensure that users do not change its purpose, which would weaken the system transparency. If modifying requests was possible, it would be hard to know if the evaluation is based on the new or the previous version. In addition, it ensures every single request will be highlighted in the timeline according to its date and location. However, the possibility of changing the location range could help open requests to have higher visibility. It would be necessary to implement a new system alert or requests rearrangement in the timeline.

On the high point, when two users interact to make a borrowing, there is no indication of progress level, so the network does not know it has been answered and solved. Since the borrowing process in *Tem Açúcar?* seems to be segmented in four moments (agreement/conversation, delivery, return and evaluation), requests are visible until the requestor marks it as concluded and both users are evaluated.

The close request issue is a point that could be better enhanced. It was observed it is necessary to mark requests as concluded or cancel them to stop its visualization on the timeline. If this is not done, it can stay forever visible on the list for all neighbours.

Not having a due date by default is interesting for company for workouts and hitchhikes requests. However, it can cause undesirable requests like the already resolved or forgotten ones by the users, leading to fruitless interactions and trivial evaluations. This generates more time to interact in a non-productive way, causing a massive number of messages that require

an answer. Negative evaluation happens in some cases because users do not respond to people who were willing to help.

The building of trust

Table 1 below shows the segmentation of the constructs for the formation of trust in the co-creator elements of the service from the user's point of view.



Table 1: Trust Segmentation Table

Platform	Neighbour	Local network
<ul style="list-style-type: none"> - Requires only basic personal information, eliminating the risk of private data leak. - It does not expose users' data besides the name, photo and request. Allows users to control the level of information to be shared. - Allows the user to control the extension of neighbourhood displayed. 	<ul style="list-style-type: none"> - There may be people already known by the user to whom the trust bond has already been developed or at least started previously in routine living (moments of entry and exit from home, among other situations). - It is possible to check the platform if users have friends in common, which helps increase levels of trust. - Once sharing was successfully concluded, both users establish a deeper level of trust because they have met each other in person, they know where to find the person and know that the person likes to co-create in a collaborative environment. 	<ul style="list-style-type: none"> - When the users know the other is close, they trust that the sharing will occur in a satisfactory way, because they will have easy access to the person in person if any problem occurs. - The risk of not having an object returned or having it damaged without prompt resolution is reduced by the fact that all network participants wish to continue enjoying its benefits. So, they avoid inappropriate behaviour with this purpose. - As more successful experiences occur, the level of trust and confidence in what is proposed is greater and wider. - The evaluation of the users helps as a construct for trust in the network. Reading the testimonials, the person willing to interact will be relying on the collective voice of previous experiences with that co-creator element.

Source: Created by the authors.

It can be said that building and strengthening trust in this service occurs gradually and cyclically. Each interaction performed generates constructs to increase trust (user-platform, user-network or user-user interaction). Once sharing is made, a testimonial and rate will be submitted to the platform, validating not only users but the trust in the network. From the moment a user registers on the platform, it is believed that trust building can be read in two ways: top-down or bottom-up as shown in Table 2 below (Manzini, 2008).

Table 2: Trust Building Routes

Top-down	Bottom-up
User - Network  User - User	User - User  User - Network

Source: Adapted from Manzini (2008)

Trust built from top to bottom occurs in cases where the user does not know any of the other participants in his or her neighbourhood in the app, so his or her choice to participate

in sharing will be based on the assessments and testimonials provided by the network, thus building trust in interpersonal relationships as experiences are established.

On the other hand, trust built from the bottom up occurs in cases that the user already knows participants of their neighbourhood or have been invited to participate by trusted family members and friends. This way, it is believed that a user tends to participate more actively and start inviting more people to join the product-service.

We conclude that trust in *Tem Açúcar?* is built asymmetrically, varying in its three degrees: the platform, the neighbours and the network. As sharing and interpersonal relationships happen, each of these elements are validated and trust levels are raised by the participants.

Real benefits and weaknesses of the model

The concept developed has great potential for replication in different network contexts, but some practical aspects of the tool have vulnerabilities that can become threats to the development of local networks and the success of the product-service system. The SWOT matrix (Table 3) allows better visualisation of the service particularities and highlights the points that require greater attention to make the service viable in other contexts or on a larger scale.

Table 3: SWOT matrix

Internal	Strengths	Weaknesses
	<ul style="list-style-type: none"> - Local network character; - Independence and self-validation; - Maintains user privacy; 	<ul style="list-style-type: none"> - No verification of user's identity; - Lack of moderation on the platform; - Little integration with social networks and other applications;
External	Opportunities	Threats
	<ul style="list-style-type: none"> - It is replicable and adaptable for different contexts; - Exponential growth through word-of-mouth; - Exercise and propagation of concepts pertinent to the maturation of the platform; 	<ul style="list-style-type: none"> - The absence of relational qualities such as trust, security and familiarity; - Scarce resources to maintain the functioning of the enabling platform; - The discrepancy between requests and aids;

Source: Adapted from Serra, Torres & Torres (2004)

The platform can be understood as a virtual environment for conglomerates of local networks. Thus, the failure of one network does not compromise the operation of the others. As it has little integration with social networks, it ends up having the benefit of being independent in its operation, it is not necessary to use any other applications for it to work, which facilitates installation, reinstallation and use. It has internal validation since the participants themselves in a network character validate the functionality of the tool and the sharing relationships through testimonials.

A pertinent weakness is that there is no identity verification of users. It is not necessary to submit any type of document to register. Therefore, there is no way to know if the person is actually being true as to his or her identity or they are pretending to be another person. In this way, it is also difficult to track users who may have used the enabling tool in a way that causes harm and damage to other participants. For those who join, it can be an advantage not to need to expose documents, but it is a factor that compromises network's security.

Although there is clarity as to the benefits that this platform model can provide socially, as the number of users grows, the “noise” increases in proportion. Keeping neighbours engaged and providing learning for new users may require a level of mediation that the tool does not currently have.

Although the rules of use are clear and there is the possibility of the users themselves denouncing neighbours, maintaining a group with the same behaviour pattern within the tool would require the election of mediators or moderators. These elements could be people who obtained more shares and positive evaluations, being responsible for their area of the neighbourhood for a certain time, thus collaborating so that the learning by the new users was effective and inhibiting inappropriate behaviours.

A threat that compromises incisively is the cost of maintaining the platform, which is made through crowdfunding (Medium, 2016). Keeping users engaged to the point of keeping a decent number of supporters in fundraising campaigns is a challenge. It is important to update the tool so that it remains relevant to the participants.

It is believed that the platform not only stimulates the act of sharing but also develops the maturation of its participants regarding issues of collective use, cooperative and sustainability, what makes them able to join other habits that require a greater commitment. There is room for *Tem Açúcar?* to develop several offers of collaborative service having the assurance of supporters.

Discussion

The borrowing and lending habit as the almost familiar coexistence between neighbours was lost in the big cities. Although this practice is not new, an enabling tool that creates even broader opportunities for sharing than just the street neighbours can be considered a social innovation.

From the aspects analysed, it can be said that *Tem Açúcar?* can be defined as a product-service system of collaborative and interpersonal nature. Through an enabling platform (the app) peer-to-peer collaborative services are performed that have a common factor: location. As the interactions are happening, the formation of local networks is solidifying. In this service, three types of relationships are identified: platform-user, user-user and user-network. Gradual and cyclically, trust can be built either from the top-down or bottom-up. Initially, new users can trust in a greater degree on the platform, the network or a participant. Once they gain sufficient confidence to act within the app, the users might or might not have high trust, it will depend on their first sharing experience and how much they rely on the other elements that make up the service.

Unlike more widespread models of "platform offerings" - leasing, sharing and rent - (Manzini & Vezzoli, 2011), *Tem Açúcar?* acts as a mediator of peer-to-peer interactions, enabling communication for individual service filaments to occur. Therefore, the owner is not a supplier of the objects of sharing, as in the case of collective laundries or car sharing systems. This type of service contributes to the minimization of resources through the collective and shared use of objects previously considered as personal. It suggests a paradigm shift in people's routines, reinforcing the concept of community, reducing the need to own a particular object to enjoy it. This form of dematerialization of consumption based on the borrowing/lending habit and focused on experiences allows interpersonal relationships improvement and a better quality of life.

The study of trust-building in relational services needs further research in different aspects because most of them are very unique. Each relational service carries particularities related to location, target group and behaviour that must be analysed and compared in order to achieve possible replication patterns.

Sharing services that use enabling platforms to mediate processes, such as *Tem Açúcar?*, shows that further study is needed to concatenate the interaction between the three elements that make up the system: users (neighbours), platform (the app) and local network. Studies on usability and user experience can help ensure that new users have a greater degree of trust

in the service from the beginning, as well as better requests management and the development of new service offerings.

A major limitation of this paper is that the locations used in the empirical research have a reduced number of users connected to the app, so it was inevitable to cover a broader area to obtain more desirable results. It indicates the importance of constantly engaging users to keep introducing neighbours, friends and family to the system, so it ensures that virtual neighbourhoods keep being created and the service purpose is achieved.

Despite these limitations, the study succeeded in terms of identifying aspects and propositions that can be tested in broader contexts. Research is needed to examine how those services keep engaging their users to maintain a trusting environment.

References

Brei, Vinícius Andrade; Rossi, Carlos Alberto Vargas. (2005). *Confiança, valor percebido e lealdade em trocas relacionais de serviço: um estudo com usuários de Internet Banking no Brasil*. Rev. adm. contemp., Curitiba, v. 9, n. 2, p. 145-168.

Cipolla, C. (2012). *Solutions for Relational Services*. In: SatuMiettinen; AnuValtonen. (Org.). *Service Design with Theory. Discussions on Change, Value and Methods*. 1ed. Rovaniemi: LUP – Lapland University Press, v., p. 34-40.

Cipolla, C; Manzini, E. (2009). *Relational services*. Knowledge Technology & Policy, [S.l.], v. 22, p. 45-50.

Draft. (2015). *Tem açúcar, boa vizinhança e colaboração: como um site está resgatando o hábito de pedir emprestado*. Retrieved from <http://projetodraft.com/tem-acucar-tem-boa-vizinhanca-e-tem-colaboracao-como-um-site-esta-resgatando-o-costume-de-pedir-emprestado/>

Jegou, F., Manzini, E. (2008). *Collaborative services*. Social Innovation and design for sustainability. Polidesign: Milano.

Manzini, E; Vezzoli, C. (2008). *Design para a inovação social e sustentabilidade: comunidades criativas, organizações colaborativas e novas redes projetuais*. Rio de Janeiro: E-papers.

Medium. (2016). *Tem açúcar: Porque o Tem Açúcar deixou de ser site e virou aplicativo?* Retrieved from <http://medium.com/@Temacucar/porque-o-tem-a%C3%A7%C3%BAcar-deixou-de-ser-site-e-virou-aplicativo-32ee44001aac>

O Globo. *Tem açúcar? Com 22 mil usuários, site brasileiro promove empréstimos entre vizinhos*. Retrieved from <http://www.oglobo.globo.com/sociedade/tecnologia/tem-acucar-com-22-mil-usuarios-site-brasileiro-promove-emprestimos-entre-vizinhos-15246520>

Rotter, J.B. *Social Learning and Clinical Psychology*. Englewood Cliffs, NJ: PrenticeHall. 1954.

Rotter, J. B. (1967). *A New Scale for the Measurement of Interpersonal Trust*, Journal of Personality, 35, p. 651-665.

Serra, F.; Torres, M. C. S. & Torres, A. P. (2004). *Administração Estratégica*. Rio de Janeiro: Reichmann e Affonso Editores.

ShareIcons (2018). *Business, Agreement, Handshake, Hands and Gestures, Gestures, Shake Hands, Cooperation icon*. Retrieved from <http://www.shareicon.net/business-agreement-handshake-hands-and-gestures-gestures-shake-hands-cooperation-828361>

Siegrist, M.; Earle, T. C. & Gutscher, H. (2005). *Perception of risk: The influence of general trust and general confidence*, Journal of Risk Research, vol 8, pp 145-156.

Stickdorn, M.; Schneider, J. (2010). *This is service design thinking*. Amsterdam: BIS.

Tem Açúcar. (2017). *Compartilhe coisas com seus vizinhos*. Retrieved from <http://www.temacucar.com/>

Tem Açúcar. (2018). *Tem Açúcar? Na sua vizinhança*. Retrieved from <http://play.google.com/store/apps/details?id=com.temacucar>