Collaborative Services in Informal Settlements.
A social innovation case in a pacified *favela* in Rio de Janeiro

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Abstract
Informal settlements are complex social ecosystems, characterized by their lack of basic services and by their particular social ties. Nowadays, several informal settlements are undergoing a phase of rapid change and new organizations and relationships are appearing. The paper discusses these transformations considering, in particular, if and how new services are emerging. This discussion is proposed on the basis of one case in a pacified favela (slum) in Rio de Janeiro. Pacification is current Rio de Janeiro government strategy to occupy the favelas formerly controlled by the drug dealers. The case "Light Recicla" in Favela Santa Marta, is a service operated by the energy company of Rio de Janeiro which seeks to reduce the electricity bill of the residents by exchanging recyclable materials for energy credits, helping them to adjust to the new reality brought by pacification. Based on this case study, the paper discusses the possibility of building a new type of service based on vertical, experiential interactions that, in turn, enable a number of horizontal, self-organized (often relational) ones. Such services are here defined as hybrid collaborative services and it is argued that their effectiveness is based on socio-cultural qualities such as openness, transparency, dignity and collaboration.

1. Background

1.1.New perspectives in informal settlements

The broader background to this paper is the same as that of the DESIS[1] Thematic Cluster[2] called Formal, Informal, Collaborative (IFC). In short, it can be summarised in two main assumptions:

- *Underserved communities.* Informal settlements[3] are complex social ecosystems, characterized by their lack of basic services (which has led to their being described as *underserved communities*) and by the (relative) density of specific forms of social ties (from traditional ones, such as those of family, clan and village, to new ones that have emerged in the particular context of informal settlements – including those imposed by criminal gangs).

- *Informal settlements in transformation.* Driven by different factors, several informal settlements have recently entered a phase of rapid change (Echeverri, 2011). In this changing environment new organizations and forms of relationships (both inside the settlements and between them and the rest of the city) are appearing. In some places, such as Brazil, the starting point of this transformation has been a set of actions known as "pacification". Pacification is current Rio de Janeiro government strategy to occupy the *favelas* (slums) formerly controlled by the drug dealers, consequently extending citizens' rights (and duties) in these areas. The overall effects of this ongoing strategy/public policy are still being felt and evaluated (Fleury, 2012).

On this basis, this paper assumes working hypothesis that are specific of the authors' research:

- *Planning by projects.* The transformations in informal settlements are also related to a planning approach that, although per se not new, has been widely adopted only in the last decade[4]. As applied to the issues considered in this paper, this approach can be summarised in the following guidelines:

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[1]DESIS-Design for Social Innovation for Sustainability is a network of design labs based in design schools (or in other design-oriented universities) promoting social innovation towards sustainability. These DESIS Labs are teams of professors, researchers and students who orient their didactic and research activities towards starting and/or facilitating social innovation processes.

[2]Thematic Clusters are initiatives promoted by groups of DESIS Labs that have found a theme of common interest, and agreed to align and systemize their on-going, programmed activities, with the aim of creating the most favourable conditions to conceive and enhance, locally and/or internationally, new and stronger outcomes. More about IFC thematic cluster on: <http://www.desis-ifc.org> [Accessed 1 August 2013]

[3]"Informal settlements are: 1. areas where groups of housing units have been constructed on land that the occupants have no legal claim to, or occupy illegally;2. unplanned settlements and areas where housing is not in compliance with current planning and building regulations (unauthorized housing)". (OECD, 2013 n.p.)

[4]A very well-known example in UK for us of this approach in the Design field has been promoted by the British Design Council in two territorial projects: *Design of the Time 2007* or *Dott07* and *Design of the Time Cornwall*. These projects, addressing the social and economic dynamization of regions in difficulty, have been pursued through a series of local projects emerging from careful attention to local demands and existing social capitals (in terms of existing associations and enterprises already active on those topics). In Rio de Janeiro, a example of this approach - not related strictly to the design field – is given by the "pacification": "The strategy of pacification

- Informal settlements can and must be improved;
- These improvements must make best possible use of the existing physical and social resources;
- They should be enhanced by a set of local projects(at different scales) promoted and coordinated by a larger framework one;
- The local projects should be driven by and, in turn generate, social innovation.

As far as concerns this research activity, rather than a public security project, "pacification" is considered as a public policy enabling a myriad of other projects to flourish, either in the *favelas* or in the neighbouring areas. In this paper, one of these projects is described and analysed.

1.2 Collaborative services: experiences vs. relations

This research activity is based on a conceptual framework that was developed in previous research in which the notions of *collaborative services*, and *experiential vs. relational interactions* were developed.

The first came to light when research activities on design for social innovation (Manzini, 2007) identified in social innovation cases, modalities of service interactions that have been called *collaborative services* (Manzini, 2008). The term "collaborative" emerged from the fact that the qualities of their interpersonal interactions were far removed from those of a *delivery* approach to services in which participants, from frontline employees (representing the organization) to clients/users, have predefined roles (i.e., employees are active, clients are passive). However, not only do the social innovations identified deconstruct the *delivery* approach to services, creating new collaborations and transforming all participants into active co-producers of commonly recognized benefits, but they also give rise to a special form of interpersonal interaction in services known as *relational services* (Cipolla & Manzini, 2009; Cipolla, 2012), where participants need not only to be operationally active and collaborative, but also well-inclined and willing to relate with others in a personal manner.

Based on a Buberian (Buber, 1996; Cipolla, 2004) theoretical framework, these finds led to the definition of *experiential* vs. *relational services* as polarities by which to identify the interpersonal qualities of services. Those relating to clearly designed roles and procedures for service actors, which predefine the range of possibilities for interpersonal encounters, are *experiential*, and those which increase the possibilities for (or even favour) unexpected interpersonal encounters, whether intentionally or otherwise, are *relational.*

On this basis, this paper assumes working hypotheses that are specific to the authors' research:

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encompasses a first moment of military occupation, a second moment of installing a permanent police unity in the territory and a third one that aims to establish a dialogue among social actors in the territory and convey their demands to a policy network" (Fleury, 2012 p. 198).

- *Collaborative services in favelas.* Given that informal settlements are underserved:
  - The best services to be developed there are collaborative ones, i.e. services in which the all the people involved actively participate in achieving the final result.
  - Collaboration can be both “vertical” between service provider and service users/ co-producers, and “horizontal” between service users/ co-producers themselves.

2. Research objectives

Moving on from these hypotheses and conceptual framework, the paper presents the possibility of building on existing and new social ties to create a new generation of services - *collaborative services* - able to involve the resident communities in solving concrete problems of everyday life and, at the same time, in promoting the evolution of the existing mesh of social ties towards more open, flexible and transparent social networks. It does so with reference to a "pacified" favela in Rio de Janeiro, and aims to understand better the features and socio-cultural qualities of a service recently introduced there.

3. Methodology

3.1 Research questions

Considering our objective described above, in this paper we will focus on the following questions:

- What is the service structure? (the collaborations between service users and service provider; between service users themselves; its overall collaborative character)

- What are the features of the core “service encounters”? (the character of interpersonal interactions in the service, i.e. the service interpersonal qualities)

- What is the relationship between effectiveness and socio-cultural qualities? (the role played by social-cultural qualities in achieving the practical effectiveness desired by the promoters and the users/co-producers)

3.2 Research methods

Our field research was carried out on a service developed by the Electricity Company of Rio de Janeiro in pacified *favelas*, called “Light Recicla”.

Investigation was undertaken in all five *favelas* where the service was installed (Santa Marta, Rocinha, Chácara do Céu, Babilônia e Chapéu Mangueira, Cruzada S. Sebastião),

but in-depth investigation was carried out in the *favela* Santa Marta, which was the first one to be "pacified". Therefore, in accordance with our research objectives[5], a single-case study in Santa Marta was completed.

The qualitative research included: (a) desk research, which encompassed news, reviews and official communication, including company reports; (b) semi-structured interviews, which range from the company's representative, responsible for developing and implementing the project, to those involved in the core service encounter (clients and agents); (c) observational research (or field research) with direct observation of the service in its "natural" setting (with particular focus on the characteristics of the service encounters), which included photos (when allowed). The interviews were interpreted by extracting the core idea of the sentences, which were analysed with reference to each one of the research questions.

4. Project: The Light Recicla Project, in the *favela* Santa Marta

4.1 General description

4.1.1 Context

Light Recicla is a service that aims to give support to people living in *favelas* that have been pacified in Rio de Janeiro, in the process of obtaining legal access to the energy service. Before the pacification process, these *favelas* were dominated by heavily armed drug dealers, making it really difficult for the energy company to get into these places and control how people were using the service. So only a few people used to pay their energy bill, leading to a situation in which everybody was losing: the energy company, because the energy it was providing was not being paid for, and the *favela* residents, because the service they were receiving was low quality (since *they were not paying for it, they couldn't complain about it*).

When the Government permanently occupied the *favelas* through special police units (which seek also to establish a close and friendly relationship with locals), the energy company (called *Light*) and other service providers where able to offer their services in a formal and legal way. Although the political and cultural background to *favela* pacification, with its short and long term implications, has been widely discussed in Brazil, this paper does not open up references to this discussion. It is assumed here that the *favelas* are now more open (in many directions: in relations with the Government, with other social actors and with the overall city) and that, as far as electricity delivery and consumption is concerned, many things have changed.

[5] "A single case, meeting all of the conditions for testing the theory, can confirm, challenge, or extend the theory. The single case can then be used to determine whether a theory's propositions are correct or whether some alternative set of explanations might be more relevant" (Yin, 2013 p. 47).

This greater openness has allowed Light, the Rio de Janeiro energy company, to renew the power grid in *favelas* to put new light meters in the houses and to charge for electricity consumption in these communities. It ensures the right for people in these areas to have a good quality energy service.

In turn, of course, the consumers were to start paying their bills regularly. But this, inevitably, was not so simple and obvious. These new expenses were added to their monthly budget but they had no additional income, which made these payments a huge problem.. An additional, related problem was that since they were not used to paying the bill, they had no idea of responsible consumption, i.e. of using energy in a way they could afford.

Aware of these problems, Light decided to try a different approach in pacified *favelas*, not only based on charging and punishing, but also based on *dialogue and collaboration*. Electricity theft is a huge problem for energy suppliers/providers (defined as commercial losses). In facing this problem through the Light Recicla project, Light is aligned with research activities in the energy provision field, which is becoming increasingly aware of an approach that aims to rethink the relations between energy suppliers/providers and its users. It is expressed by the Light in its Management's Annual Report 2012: "*Light in 2012 established a partnership with the State Government, working in areas where have been installed Police Units for Pacification (UPP), which has facilitated their access and creating a new relationship with the customers. The company operates in community transformation, formalization and changing habits*" (Light, 2012a p.25).

The potential of this approach is confirmed by Winther (2012) who, on the basis of 16 months of ethnographic fieldwork and visits stretching over a time span of 15 years in countries such as Zanzibar, proposes to consider electricity theft as a relational issue and to show *"the merits of applying a grounded, socio-technical and relational analysis for understanding and addressing electricity theft in particular, and for realising sustainable energy systems in general*" (p.111). Citing previous study, she describes how "*conventional, top–down approaches to the problem tend to centre on either technical innovations such as smarter meters; managerial methods, for example, inspection, control and audits; or system changes, typically through privatisation of public energy companies*". However, "*Experience shows that, taken alone, neither of these methods provides blueprint solutions to the problem. Broader and more contextually sensitive approaches are called for*" (Winther, 2012 p. 112).

4.1.2 Project

Light Recicla is a complex service resulting from the combination of 2 services:

1. Delivery of electricity
2. Collection of recyclable materials

Delivery of electricity is operated by the energy company of Rio de Janeiro, Light . The electricity is delivered in the standard modality except for the payment systems (see later).

Collection of recyclable materials has been set up and is now operated by a Light partner. Citizens are requested to bring washed and separated recyclable materials to dedicated Collection Points (figures 1 to 4), where the value of these materials is converted into credits towards a discount in the next electricity bill.

Two symbiotic aspects of the same service:

- *Project economy*: in the Light Recicla service, the company gets paid for the energy it provides (even though the bills are paid in a way that is far from conventional). Users in *favelas* have a chance to pay for their bills in a way that does not jeopardise their family budget.

- *Project Innovativeness*: the service is innovative because it creates a new relationship between the company and its consumers, which defines a new kind of collaboration to tackle a new social situation that has emerged. The service requires an active role on the part of the electricity consumers (Light Recicla´s service users), who need to engage not only to solve their own electricity bill issue, but also to clean up the locality where they live. Company and citizens work together to diminish the *favela's* problems and to make the pacification process easier.

Figure 1: A Light Recicla Collection Point (Photo: Patricia Melo)

Figure 2: Recyclable materials separation at a Light Recicla Collection Point (Photo: Patricia Melo)

Figure 3: User and employee interaction at a Light Recicla Collection Point (Photo: Patricia Melo)

Figure 4: Device for recording credits at Light Recicla Collection Points
(Photo: Patricia Melo)

4.1.3 Design process

The design process started just after the beginning of the pacification process, when Light sent some of its employees to the communities to talk about how the company was going to formalize the electricity delivering process. In these visits the company started a dialogue with members of the community in order to make the transition from an informal to formal situation easier. One of the points raised was the amount of garbage in *favelas*, much of which was recyclable materials. This observation led the Light team to focus on a previous experience in the State of Ceará (Brazil), developed by an electricity company called COELCE, where people exchanged recyclable materials for credits in their electricity bill. This scheme was introduced to reduce garbage waste in some areas of the state, using the reduction on the energy bill as an incentive.

Light Recicla was inspired by the Ceará project, but with a shift in main focus: from environmental gain (Cearà) to social gain (Light). It was therefore an adaptation with a different focus, in a different context. Light´s team realized that, if this could be achieved in the *pacified favelas* in Rio de Janeiro, it would have an even greater impact, in view of the new social demands brought by pacification. So, garbage, a huge problem in these areas, could become the solution that helped people pay their bills just as they were starting to gain legal access to the energy service. Thus the project was also able to meet the demand for "*contextually sensitive approaches*" (Winther, 2012 p. 112) in relationships with consumers, which constitutes a marked change to conventional company strategy, and is so much needed in the pacification process.

4.1.5 Solution

How the service works

Customers play an active role in this service: they collect the garbage, wash it, separate it and bring it to the collection point. At the collection point, the garbage is weighed and the discount obtained with the garbage is recorded in the system, and appears in the next bill. Every consumer has a card with their user's number, which is used to record the discount. This process is shown in Figure 5.

The user collects the material that can be recycled, washes and separates it according to type.

The user takes the cleaned and separated material to the collection point in the days and hours of operation.

He delivers the materials to be weighed by staff in the collection point.

The user gives his card to the employee who logs into the machine the weight of the garbage that was collected.

The user receives a receipt for the recycled material, with the value of the discount obtained, and leaves.

Figure 5: Light Recicla's storyboard (Photo: Patricia Melo)

4.1.6 Company's motivations

Light shares with other experts the idea that the best way to introduce a legal service in the previously informal settlement, is to adopt a strategy that avoids being punitive and embraces a more dialogical form of interaction. The company also knows that, by building a good relationship with its customers, it will be able to reduce energy theft and bad debt, which leads to a better economic result. This strategy is well described by Winther (2012): *"[...] the core customer – provider relationship is a key to understanding how unsustainable energy practices, such as theft, may be avoided. Making customers act in a certain way will always be the goal of the supplier and the political institutions governing it, but the decision on how to act ultimately rests with the customer*."(p.118)

Furthermore, the concession contract signed by public electricity concessionaires with ANEEL (National Electricity Agency) establishes obligations and liabilities to the grantor. One of these obligations is to dedicate the annual amount of at least 0.5% of their net operating revenues to actions that aim to combat electricity waste. Light Recicla is in line with actions aimed to fulfil this requirement.

Furthermore, in the course of pacification, electricity provision in pacified communities was brought into compliance with legal standards. The company began to reform the network of these *favelas*, installing a shielded network and telemetry, which allows greater control over default and electricity theft. With this new model, if the consumer does not pay the bill, the power supply can be cut without sending a team to the site: everything can be done at distance by the company´s system. These measures generate a significant increase in the revenues of the company and financial analysts predict an increase in the value of company shares (Kahil, 2011). In all this, Light Recicla brings a context sensitive approach, considering the difficulties of the favela´s communities in paying their bills. It also enhances the "brand value" of Light , as it is considered a project of social benefit which can be presented to the media, aligning the company with the socially sensitive side of the pacification effort.

4.1.7 Citizens' motivations

Citizens' motivations are of different kinds: The economic motivation is obviously the most apparent (collecting recyclable materials in exchange for a reduction in the electricity bill). However, a better observation indicates that several domestic users consider the economic gain from the exchange, i.e. the remuneration for the collecting work, too low (with the exception of users who are able to integrate the collection of recyclable materials with their own everyday work: for example, owners of local bars, food kiosk workers and janitors, who can collect large quantities of recyclables, allowing them to have large discounts or even offset their entire debt). Therefore, if users of this opinion adhere to the project it is because they recognize the cultural value of doing something good for themselves and for the community as well as the economic value of collecting waste.

In other words: several domestic users understand the environmental benefits brought by the project, beyond the discount in the bill, and this motivation too (i.e. to feel good, to be a "real, good citizen") is a meaningful driver for their active participation.

4.1.8 Partners' motivations and roles

To operate the project, Light promoted a partnership with other companies: 3E Engenharia, which provides the ICT system where the credits are recorded and manage the infrastructure of the Collection Points; Doe Seu Lixo, which receives the garbage from customers and takes it to be recycled, managing also the employees involved; and the Coopama, which is responsible for the collection and recycling of cooking oil. These companies are technically and economically involved in the project. The Government has

also cooperated with Light, granting the space and legal conditions for the project to function, recognizing its potential benefit to the success of pacification.

4.1.9 *Company reports*

In 2011, in its first year of operation, Light reported (Light, 2011 p. 82) that Light Recicla gave an average discount per month of 22 reais/user. The report noted that in 2012, the average discount per month was 40 reais/user (an increase of almost 82% compared to 2011) and the project had 1715 registered customers (Light, 2012b p. 36).

According to the company, Light Recicla has 4898 registered customers (figures for June 18, 2013) and about 60% of these are active, meaning they collect recyclable materials regularly, which indicates approximately 2938 active users. By June 18, 2013, Light had granted a total of R$ 183,891.17 reais of credits on electricity bills. The average collection of material in all Collection Points between January and May 2013 was 160,115.87 kg / month and 458.30 liters of cooking oil.

Light therefore reports that the project is in continuous expansion. The company is increasing the number of beneficiary communities, and users are able to find ways to increase the value of the benefit they receive monthly.

3.2. Findings

The following considerations have emerged from the *research activity* organized in response to our research questions.

3.2.1 Vertical and horizontal collaboration

The Light Recicla service (meaning the symbiosis of electricity delivery and recyclable material collection) can be considered a collaborative service, at least as far as regards the collection of recyclable material:

- *Vertical collaboration*. This is a form of collaboration between service users (*favela* inhabitants) and the service provider (Light). In the collection of recyclable materials this collaboration is a necessary condition to its operation. Therefore, this service component is necessarily a co-produced service: a service in which results can be achieved only if interested people actively participate and are motivated to engage in the service performance. Light Recicla is opening up a new perspective for relations between the energy company and its users. The company-customer relationship in the *favelas has* historically presented many strains that have led to distrust by both parties. The power company must face default and electricity theft. Customers are afraid of being overcharged and that companies are benefitting, to

their detriment. Such feelings are particularly strong in this time of transition, where users have no real idea of the value of their monthly consumption since consumption had not been recorded before. Despite residents still wary of the monthly bill to be paid, many users reported that Light Recicla is helping to build a more positive image of the company. Besides that, the company is also promoting activities on consumer education.

- *Horizontal collaboration*. This is a form of collaboration between service users themselves. In the original waste collection project this kind of collaboration was not foreseen. Nevertheless, we have observed that it is starting to take place in spontaneous, self-organized initiatives. This horizontal collaboration happens when neighbors and family members help each other spontaneously. It may occur without payment or, as in one case we observed, by payment. In this case, a user called Benedito, who owns a bar near the Collection Point, observed that other users were not motivated to separate, clean and take the recyclable materials to the collection points. He started to collect other citizens recyclables in exchange for half the value obtained in the exchange for credits, developing a kind of small business that increased his monthly income while helping others to lower their bills.

3.2.2 Experiential vs. relational services

The Light Recicla service has been conceived and implemented in such a way that personal interactions tend to happen following predefined and precise procedures (i.e. in Buberian language, it is a collaborative service based on *experiential* interactions). Nevertheless, we observed that in practice , *relational* interactions appear too. They are created in two main kinds of *service encounter*:

- The encounters between service users and service frontline employees at the Collection Point, where the formalized interactions (the ones needed to exchange waste with electricity credits) are often surrounded by conversations of a more personal character. The frontline employees become personally involved with the users, despite the fact that they are not locals. Users bring their complaints to the frontline employees, as they represent for them a friendly and "human" face of the company, even though they are not in charge of such demands.

- The encounters between peers, aiming at mutual help in collecting waste and delivering the material at the Collection Points, where some form of *relational* interactions are always needed. One of the users said he brings the waste of "the grandmother of his girlfriend", who has time to clean up and organize the waste, but is not easily able to bring it to the Collection Point. In the case of Benedito and his "small business", his activity is enabled by the social ties between him and his peers, as it is based also in trust. He prepares and delivers the recyclable materials of other users, and discounts are credited in their accounts. Only later, and informally, by presenting the ticket showing the registered discount obtained, he is paid half the overall discount in cash for his work.

3.2.3 Effectiveness and socio-cultural qualities

This project has, on both sides (service provider and service user/co-producer), a clear economic motivation and its success is mainly based on its practical effectiveness.

The reduction of the default on energy bills in the *favelas* can be considered an objective measure of effectiveness for both sides (for the company and its consumers) during pacification. People in these areas are gradually being required to act like any other citizen in Rio de Janeiro, where citizenship presupposes rights, but also duties. Clearly it is not an easy process, and it is being discussed extensively. As far as regards electricity, regular bill payment also requires an adequate connection to the power grid, which increases both quality and safety of provision, particularly considering that unofficial installations are usually dangerous, both for house owners and for passersby. With this in view, it has been reported by a company representative that default has now fallen to as little as 2% in the communities where the Light Recicla is running. In the *favela* Santa Marta, around 80 of the approximately 1600 homes were officially connected to the network and received energy bills before pacification, but only 24 were actually paying them. Today, with all the houses officially connected to the power grid, overall bill payment is 114 times higher.

As far as we are concerned here, the socio-cultural qualities expressed in the way the Light Recicla service is designed are also considered to be playing a very important role in making the service effective on both sides, although in different ways. We can summarize these qualities with 4 keywords: *openness, transparency, dignity,* and *collaboration*.

- *Openness*: the service is based on a pact in which different roles and procedures are clearly defined and can be easily communicated.

- *Transparency*: the whole service, and in particular the transaction "credits-for-recyclable materials", is visible and immediate, being directly related to the way *service touchpoints* were designed: the key items are the devices that weigh the recyclables, calculate their value, send the info to the administration and print immediately a receipt indicating the credit/discount obtained by the user – see figure 5). This is a key point since users in the *favelas* can be wary of public service providers.

- *Dignity*: the service deals with garbage, but it is designed and managed to be clean, hospitable and friendly, which is manifested by the *service touch points*: the Collection Points, where the people working are very well presented and organized (see figure 1 to 3: Collection Points);

- *Collaboration*: the service introduces a complex idea of collaboration: formalized, vertical collaboration with the Company, based on the previous 3 socio-cultural qualities; and more flexible, freer and more friendly, horizontal collaboration on a personal-local scale.

4. Conclusions

Observations. We can summarize the previous considerations in some observations that, in our view, can be generalized and become starting points for future research programs:

1. The service analyzed was conceived as a *collaborative organization*, based on vertical collaboration between service deliverers and service users/co-producers. In turn, this vertical collaboration, and the enabling systems on which it is based, enables the users/co-producers to establish forms of horizontal collaboration (with micro-businesses and/or mutual help activities through both, *experiential* and *relational* interactions).

2. The viability of the service is based on two main characteristics:

- a blend of vertical and horizontal collaboration, top-down and bottom-up initiatives, *experiential* and *relational* interactions. This blend is crucial to give the service the necessary transparency (through clear norms and procedures proposed by a legitimate, trustworthy authority) and embed it in the local social fabric (through horizontal collaboration and relational interaction);

- a double link between its effectiveness and the socio-cultural qualities it generates (such as: openness, transparency, dignity, collaboration). These qualities are fundamental for the success of the whole service. In turn, in practical terms, its success demonstrates and spreads these qualities, which are essential in the moment *favelas* are facing.

The main feature of the observed service is that it is based on vertical, experiential interactions that, in turn, are starting to enable horizontal, self-organized (often relational) ones. We can define it as a *hybrid collaborative service*.

The viability of such a service is based on three pillars:

- its features in terms of: the economical gains; its effectiveness; the friendliness of its functioning;
- recognition of the positive meanings it conveys and the socio-cultural qualities that give sense to active citizen participation;
- The possibility to enrich vertical collaboration with horizontal p2p cooperation.

Given these empirical observations, and *with reference to these hybrid collaborative services in evolving informal settlements*, the main questions emerging to be tackled in our future research activities, are:

1. Is this format viable in different contexts and application fields (and, if so, with what limits)?

2. Can it (contribute to) increase the service level in these settlements (because such services can be cheaper and/or more appropriate to their particular characteristics)?

3. Can it (contribute to) create a new kind of public space (and therefore open these settlements to the other parts of the city)?

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