

# Service innovation in emerging economies: an inclusive perspective<sup>1</sup>

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Angela Caridà - Maria Colurcio - Tiziana Russo Spena  
Jay Kandampully

## Abstract

**Purpose of the paper:** *This research aims to examine the changing role of service innovation in emerging economies towards the more inclusive concept of service ecosystems. This perspective allows us to frame service innovation in emerging economies as a complex and dynamic system based on the interplay of social, economic and technological issues.*

**Methodology:** *We adopt a qualitative in-depth case study to explore in a real life, contemporary bounded system how service innovation occurs in complex service ecosystems, such as the urban contexts in emerging economies. The study was conducted using both documentary and field investigations. It focuses on the analysis of the urban context of Curitiba in southern Brazil, which is well recognised as the world's leading liveable, green, and inclusive city.*

**Results:** *This study provides some evidence of how emerging economies could design and deliver sustainable service solutions to create service ecosystems. The research specifically emphasises the role of social, institutional and technological drivers that traverse all aspects of society and enable social changes and social practices to positively enhance and uplift the life of many people in society.*

**Research limitations:** *The main limitation of the study is the single case study, which does not allow generalisation of the results.*

**Practical implications:** *This paper offers new insights for designing and configuring practices for integrating available resources to enact sustainable and inclusive service innovation.*

**Originality of the paper:** *This study advances the ongoing conversation on service innovation in emerging economies by combining the service logic framework with an ecosystems perspective. It identifies and operationalises co-responsibility as a scalable and sustainable practice that is rooted in and nurtured by social values (sustainability, solidarity, inclusiveness), specifically with regard to emerging economies.*

*Key words: service ecosystem; emerging economies; service innovation; sustainability; actors*

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## 1. Introduction

In recent years, structural transformations have affected service sectors in emerging economies (i.e., some countries in Southeast Asia, Latin America and South Africa) and have transformed the global competitive landscape.

These economies have posed new questions and challenges in academic discussions on services because they grow at faster rates than developed economies (Reynoso *et al.*, 2015) and are sources of disruptive innovations in many fields (Markides, 2012), particularly in the service sector. However, service innovation is acknowledged as the driving force behind both business organisations and societies in developed and developing countries. In the latter countries, service innovation is considered a particular powerful way to advance societal change for the well-being of both individuals and society collectively (Ostrom *et al.*, 2015; Rubalcaba *et al.*, 2016). Indeed, in emerging economies, services are socially co-created, and the service sector is considered to be highly socially sensitive (Reynoso *et al.*, 2015). The social changes are enhanced by the better use of technology, which can boost value co-creation and social innovation (Pellicano *et al.*, 2017). The Internet and mobile technologies widely affect every aspect of people's daily life and provide new opportunities (Reynoso *et al.*, 2015) that did not exist in the past.

The new conceptualisation of service, the transformative power of technologies in triggering systematic and sustainable service innovation in emerging economies (Reynoso *et al.*, 2015; Demirkan *et al.*, 2008) and the increasing relevance of such economies in the global market have posed new questions in the recent economics and service debate (Carlborg *et al.*, 2014). Hence, conceptualising and operationalising service innovation in emerging economies as in developed economies appears inappropriate. Indeed, in contrast to developed economies, service innovation in emerging economies refers to social innovations that “come from the collaboration of organisations with relevant stakeholders, from users and other companies to local businesses and society as a whole” (Pellicano *et al.*, 2017, p. 104) to provide novel solutions with long-lasting “value” for the entire society rather than for private individuals (Reynoso *et al.*, 2015; Phills *et al.*, 2008).

Service innovation usually entails unconventional solutions that require a “doing more with less” approach (Reynoso *et al.*, 2015; Gebauer and Reynoso 2013) to overcome resource scarcity and to better satisfy the needs of the poorest market segment (Reynoso *et al.*, 2015) by engaging the entire community.

Despite these aspects, the recent experiences from some automotive global players (Sivaprakasam and Srinivasna, 2015) clearly demonstrate the scalability of service innovation in developing markets as well. Although generalisations derived from data gathered in developing markets can be applied to high-income economies, the contrary is not applicable.

Nevertheless, academic debate investigates service innovation in developed economies (Ostrom *et al.*, 2015), whereas studies on service innovation (Aksoy *et al.*, 2019; Carlborg *et al.*, 2014;) and on the role

of technology in supporting it in emerging economies are still limited (Ostrom *et al.*, 2015; Hsu *et al.*, 2019).

Accordingly, scholars have called for the need to broaden the investigation of the role of service innovation in emerging economies “to satisfy the substantial need to be sensitive to - and to capitalise on - different contexts as well as perspectives/paradigms from different parts of the world” (Ostrom *et al.*, 2015 p. 148). From this perspective, Reynoso *et al.* (2015) and Letaifa and Reynoso (2015) proposed the idea of involving the entire ecosystem and networks to create inclusive innovation to benefit the economy overall. Despite these attempts to extend the service innovation perspective in emerging economies, no empirical studies refer to service ecosystems and innovation in emerging economies or to the triggering role of technology in this specific context. On this point, Gallouj *et al.* (2018) identified both the further development of the smart service ecosystem and the need for advanced knowledge about innovation practices in public policies as research priorities for service and social innovation studies.

Accordingly, this paper aims to advance the concept of service innovation in emerging countries towards the more inclusive concept of service ecosystems.

We adopt a qualitative in-depth case study based on the analysis of the urban context of Curitiba in southern Brazil. It is well recognized as the world’s leading liveable, green, and inclusive city (Domareski-Ruiz *et al.*, 2019).

This paper contributes to service innovation literature in emerging economies. Service innovation is conceptualised as a complex and dynamic system involving an active interplay between social, economic and technological issues. The paper identifies co-responsibility framework addressing innovation needs through sustainable, collaborative and scalable solutions (Caridà, 2018).

The paper is structured as follows. First, we discuss previous studies on the topic of service innovation in emerging economies. Second, we present our methodological approach. Third, we discuss the results of the study. Finally, we present the conclusions and the main limitations of this research.

## 2. Literature review

### 2.1 Service innovation in emerging economies

Service innovation is a driver of societal change to advance well-being and to alleviate poverty for both individuals and collectives (Gebauer and Reynoso, 2013). Accordingly, investigating service innovation is critical to emerging economies and represents a promising topic for future studies in the field of service marketing (Rubalcaba *et al.*, 2016). Despite the relevance of the topic, few published studies address service innovation in such contexts (Caridà, 2018; Caridà, *et al.*, 2017; Rubalcaba *et al.*, 2016).

Prior studies on service innovation originate from developed and well-established economies (Ostrom *et al.*, 2015; Reynoso *et al.*, 2015;

Carlborg *et al.*, 2014). Although service innovations are cross-cultural and can be applied across different countries and regions, their contents and dynamics are influenced by contextual factors, including the diversity of resources, knowledge, networks of relationships and social structure (i.e., institutions) (Edvardsson *et al.*, 2011).

Service innovation in emerging economies entails solutions that are local in focus (Reynoso *et al.*, 2015) and strongly dependent on the economic, cultural and political context. Often, businesses suffer from a lack of landline telecommunications and poor financial infrastructure (Ostrom *et al.*, 2015), and they primarily rely on offerings of products and services that target customers in the poorest market segment; this is often referred to as the bottom or base of the pyramid (BoP) (Prahalad, 2012).

Within emerging economies, innovation is led by one main actor (Letaifa and Reynoso, 2015) from the public or nonprofit sector, which is forced to break with the conventional approach to overcome the limited budget to innovate (Yunus *et al.*, 2010). These innovations are often rooted in cost reduction, simplicity and creativity (Macedo, 2013). They have the potential to create new products and new market niches for large companies, which can export new solutions to the home base and traditional markets (Sivaprakasam and Srinivasna, 2015). In addition, the goal of service innovation in emerging economies relates more to societal and moral value than to economic value (Pol and Ville 2009). It better fits the concept of open social innovation, which requires an open and collaborative approach to promote the development of new social solutions to satisfy both collective social needs and the needs of the involved stakeholders (Santoro *et al.*, 2018).

To address the needs of emerging markets, the mainstream BoP literature heralds new interdependence among a wider set of actors, including local businesses, public organisations, and government as well as local communities. All these actors act collaboratively to promote the ethical use of resources to implement inclusive social innovation (Gallouj *et al.*, 2018) that enhances both social and economic well-being for all (Reynoso *et al.*, 2015). The inspiring principle of inclusive innovation is to integrate commonly excluded people (Halme *et al.*, 2012), framing local communities not simply as beneficiaries but also as value co-creators and active entrepreneurs (Kandampully *et al.*, 2015; Govindarajan and Ramamurti, 2011).

In emerging economies, collaborative innovation is essential because it bridges the bottom and the top of the economic spectrum (Reynoso *et al.*, 2015). Customers at both ends of the economic spectrum serve as active resources to contribute to the effective innovation and development of society. Therefore, innovation in emerging economies (i.e., open social innovation) can be considered to be co-created "...through the inflows and outflows of knowledge and technologies (inbound and outbound activities) and collaborations between different entities (coupled processes), mobilising actions across boundaries and exploiting ecosystems" (Santoro *et al.*, 2018, p. 30).

Because of its networking implications, service innovation in emerging economies is portrayed by Reynoso *et al.* (2015) as a process that works

according to an ecosystem view. These authors acknowledge the intrinsic complexity of reality and the importance of considering various levels of interaction to grasp the socioeconomic processes that influence service development in this context.

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## 2.2 Service ecosystem approach to innovation

Innovation overcomes traditional product and service separation (Mele *et al.* 2014; Vargo and Lusch, 2008) and involves a network of social and economic actors - organisations and individuals - that coevolve their capabilities and roles for the advancement and survival of the network itself (Akaka *et al.*, 2012; Vargo and Lusch, 2011).

Innovation is the result of recombining existing resources (Lusch and Nambisan, 2015), which is grounded in the ability of actors to use and integrate their own resources to access additional resources through service-for-service exchanges. This approach suggests that innovation (i.e., service innovation) occurs in service ecosystems that are complex, emergent, dynamic networks of actors and their interactions (Lusch *et al.*, 2016; Akaka *et al.*, 2012) and that value is thus co-created through networks (Sklyar *et al.*, 2019; Siltaloppi *et al.*, 2016; Lusch and Nambisan 2015; Vargo *et al.*, 2015) of multiple actors, which are involved in the value co-creation process at various levels of interaction - micro, meso and macro (Akaka *et al.*, 2013).

The service ecosystem is a relatively self-contained, self-adjusting system of mostly loosely coupled social and economic (resource-integrating) actors connected by shared institutional logics and mutual value creation through service exchange (Vargo and Lusch, 2011). It is characterised by dynamism and self-adjusting properties and by an important role of technology and institutions seen, respectively, as hard and soft infrastructures that influence the interactions and the co-creation of value in ecosystems (Vargo *et al.*, 2015): “*Such a perspective emphasizes the role of IT as an operand resource, specifically in the way digital infrastructures can help hold together diverse actors and enable collaboration in the ecosystem*” (Lusch and Nambisan, 2015).

Similarly, institutions (the set of norms and values) become central to innovation. Indeed, institutions are deeply rooted in the social system and in social structures that affect activities and interactions and constitute the foundation for service innovation: “*Value co-creation necessarily follows social structures and takes place within social systems in which the actors (customers and companies) adopt certain social positions and roles as they interact and reproduce social structures*” (Edvardsson and Tronvoll, 2013 p.330). In the same manner, institutions influence interactions that contribute to the creation and evaluation of value and innovation among multiple actors, even those that result in the rejection of value propositions (Koskela-Huotari *et al.*, 2016; Vargo *et al.*, 2015; Skalen *et al.*, 2014).

Therefore, both technology and institutions are constitutive elements of service ecosystems as they shape the way multiple actors collaborate in value co-creation processes and innovation (Colurcio *et al.*, 2017; Vargo *et al.*, 2016; Akaka and Vargo 2015; Caridà *et al.*, 2015; Akaka *et al.*, 2012)

by recombining their own practices to provide novel solutions for new or existing problems (i.e., at least partial disruption of existing institutions) (Vargo *et al.*, 2015).

The service ecosystem conceptualisation captures the complex and dynamic dimension of service-for-service networks and markets, where innovation emerges as an open-link process based on iterative activities connecting firms, users and organisations (Mele and Russo Spena, 2015; Russo Spena and Mele, 2012). It implies the inclusiveness of different stakeholders in the innovation or transformation process and the convergence of their different interests to pursue the well-being of both individuals and the overall system (Pellicano *et al.*, 2017). Such a perspective offers an interesting framework to capture and understand service innovation in BoP contexts as well as to address its scalability and sustainability (Letaifa and Reynoso, 2015). The scholars propose a BoP service ecosystem framework based on four main features: 1) the multi-actoral context in which all individuals are active operant resources, 2) social embeddedness and the local focus services design, 3) the specific roles actors play according to their competencies and 4) the ecosystemic value, which is value for all beneficiaries and is related to multiple dimensions of social, economic, ecological, and cultural benefits. From this perspective, this paper provides insight into how service innovation practices in emerging economies arise through resource integration in service ecosystems.

### 3. Research design

#### 3.1 *The research construct and aim*

The service ecosystem perspective allows researchers to broaden the concept of value creation to peripheral and traditionally excluded actors, including people living at the BoP, as well as to analyse various levels of interaction (micro, meso and macro) and the different social roles actors enact that constitute socioeconomic processes and influence service innovation development.

To better understand the driving force that shapes service innovation in complex ecosystems such as urban contexts in emerging economies, the research construct we propose addresses both the individual and collective actors who integrate resources through various levels of interaction (micro, meso, and macro) (Akaka *et al.*, 2013; Beirão *et al.*, 2017) as well as the resource integration mechanisms (Caridà *et al.*, 2019) they enact that result in the development of a sustainable practice to drive societal change and advance the well-being of individuals and collectives (i.e., the service innovation practice in emerging economies).

Our research question hinges on the understanding of the role of service innovation in emerging economies and more specifically:

*How does service innovation provide inclusive solutions benefiting the whole community?*

### 3.2 Methodology

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Service innovation in emerging economies is an emergent research area that requires theory-building efforts (Rubalcaba *et al.*, 2016; Ostrom *et al.*, 2015, Reynoso *et al.*, 2015) for which case-based research designs are specifically appropriate (Stake, 2011; Yin, 2009). Therefore, this study adopts a qualitative in-depth case study (Stake, 2011) to explore, in a real-life situation (Siggelkow, 2007), how service innovation occurs in complex service ecosystems such as urban contexts in emerging economies.

To study and report the context as part of the descriptive character of the research (Stake, 2011), we developed a documentary analysis. It involved multiple sources of information and data - reports, newsletters, YouTube interviews and in-depth interviews - to integrate investigations conducted through direct observation or questioning (Hammersley and Atkinson, 1995). The choice of multiple methods for collecting information allowed for data triangulation to establish the reliability and validity of the research construct (Eisenhardt, 1989; Yin, 2009).

The data collection effort was divided into two periods (September 2014-April 2015 and June 2017-July 2018 for the data updating). Table 1 shows the process of data collection and analysis by detailing the tools, focus, content and time of the research activities.

First, one researcher with an operations background spent one year in Brazil (October 2014-November 2015) to outline the main issues covered by studies on service innovation in emerging economies. She collected data through direct observation and in-depth interviews. Specifically, she conducted two Skype interviews with the International Affairs Advisor of the IPPUC (Institute for Research and Urban Planning of Curitiba) to obtain an overview of the concepts of sustainability, smartness and service innovation in Curitiba, one face-to-face interview with the IPPUC public relations manager (November 2014 and April 2015) and two face-to-face interviews with the IPPUC project manager to collect data about the implementation of projects for the sustainable development of Curitiba.

The interview form was designed according to an open and dialogical structure to understand how different actors, including commonly excluded people, are not simply value beneficiaries but are also value co-creators at various levels of interaction (micro, meso, and macro) (Akaka *et al.*, 2013). All interviews were transcribed verbatim and, along with all of the documentary evidence and the theoretical approach, were analysed and grouped into their respective categories to codify the roles of the main actors involved in the sustainable development of Curitiba, the resources they integrated and the actions they implemented at different levels of interaction as well as the resource-integrating mechanism driving service innovation in Curitiba.

Additionally, in June 2017 and July 2018, the IPPUC project manager provided us with documentary evidence and reports describing in detail the characteristics of each focal project. Finally, the researchers collectively identified and explored in depth the resource integration mechanisms that were deemed most important to codify the service innovation practice in emerging economies.

Tab. 1: Data collection and analysis

DATA COLLECTION				DATA ANALYSIS
HOW	WHO	WHAT	WHEN	CODING ACTIVITIES
Documentary Analysis		Reports, newsletters, YouTube interviews	September 2014 to July 2018	Reading, studying and selection of data and documents
Skype Interviews	IPPUC International Affairs Advisor	Open interviews	September 2014	Preliminary conceptualisation and operationalisation of the service innovation pillars in Curitiba. Selection of project/ service solutions engaging the whole community to provide novel solutions with long-lasting value primarily for the entire society rather than private individuals (Reynoso <i>et al.</i> , 2015; Phills <i>et al.</i> , 2008).
Direct Observation	One researcher	Visiting: IPPUC Wire Opera House Curitiba Technopark Botanical Garden Tuboteca Lighthouses of Learning	November 2014 April 2015	Visit of Curitiba City
Face-to-Face Interviews	IPPUC Public Relation Manager IPPUC project manager	In-depth, Problem-centred interviews according to a narrative, text-based research design	November 2014 April 2015	Classification, analysis and interpretation of data according to the elements defined in the research construct: 1. actors' roles 2. the resources actors integrate and the levels of interaction 3 the actions they implement 4. the resource-integrating mechanism driving societal change and advancement of the well-being of individual and collectives.
Documentary Analysis	IPPUC project manager IPPUC International Affairs Advisor	Updating data on content and evolution of the projects previously selected and investigated (i.e., Smart mobility Air Quality in Curitiba - today and tomorrow)	June 2017 July 2018	Selection and integration of data and documents

Source: Our elaboration

#### 4. Curitiba case study

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Curitiba is the capital city of Paraná State - southern Brazil; it is internationally recognized for its creativity (Domareski-Ruiz *et al.*, 2019) in facing common challenges associated with urban development (Reis *et al.*, 2010) and the explosive growth of rural-urban migration - sprawl, environmental degradation, economic inequality, etc. - typically featuring emerging economies (Reynoso *et al.*, 2015). The concept of urban sustainability inspired and shaped Curitiba before it entered the common lexicon and became the only possible alternative for urban development (Macedo, 2013). Since 1970, Curitiba has been referred to as the green, ecological and most sustainable capital of Brazil as well as a city learning model and a collaborative and participatory environment (Arbel, 2012) for creative and low-cost urban solutions (Domareski-Ruiz *et al.*, 2019). After the 1950s, the population doubled every 10 years for 30 years (Macedo, 2013; Arbel, 2012) and the municipality formally started an ambitious and expensive urban planning process (i.e., the *agache* plan) to manage urban expansion (Macedo, 2013). The new urban plan was put into practice in 1971 after a long incubation period of six years. It came from a national urban design competition (six companies were invited to submit proposals for a new urban plan) and a series of public debates during which various plans were discussed and evaluated with the population (IPPUC, 2016; 2009). The new plan focused on a linear model of urban expansion and on the re-use of physical structures as solutions to urban problems (IPPUC, 2014). It sought to integrate the demands of living, moving, working, and recreation into urban services to form an integrated system of mobility, road infrastructure, and land use (Macedo, 2013; Arbel, 2013). This process started during Jaime Lerner's administration with the reconceptualisation of the i) transportation systems as the hub that affect cities' sustainability, environmental quality and economic efficiency and of the ii) city as an organism, a system in which a close relationship between public transportation and land-use legislation acts as a guidance and development tool (ICLEI, 2016, 2013).

The master plan winning team proposed the establishment of a local independent planning agency (the Institute of Research and Urban Planning of Curitiba - IPPUC to ensure the upgrading, management and monitoring of the urban development plan. The IPPUC worked as an advisory institution to the mayor's office to link planning to politics (Macedo, 2013). It contributed to the political continuity and to the success of planning initiatives as it was a source of both professionals (designers, architects, urbanists, engineers) and politics. After five decades of planning, Curitiba is internationally recognised as a global best practice (Hojda *et al.*, 2019; Macedo, 2013; Meyer 2019) that already in 1970 had started a smart city programme with multiple focuses on the economy, environment, people, mobility and governance (Hojda *et al.*, 2019; Ojo *et al.*, 2015).

The fundamental elements driving the transformative process of Curitiba are analysed in the next section. Table 2 synthesises our study in detail. It indicates the main projects addressing the sustainable development of Curitiba, the main actors involved in such projects and the related actions and goals.

Tab. 2: Projects of Curitiba

Project	Actors	Actions	Aim
Typing the Future	<ul style="list-style-type: none"> <li>- Municipality</li> <li>- Apple</li> <li>- Local ICT companies</li> <li>- Social organisations</li> </ul>	<ul style="list-style-type: none"> <li>- Extending free Internet connectivity to city's libraries, secondary schools and favelas</li> <li>- computer labs in secondary schools for free</li> <li>- Computer training activities for adults for free</li> </ul>	<ul style="list-style-type: none"> <li>- To enhance citizens' smart attitudes</li> <li>- To turn citizens into very highly skilled workers</li> <li>- To connect poorer segments with housing and recreation facilities</li> </ul>
Curitiba Technopark	<ul style="list-style-type: none"> <li>- Municipality</li> <li>- IPPUC</li> <li>- Universities</li> <li>- IT companies</li> <li>- R&amp;D centres</li> </ul>	<ul style="list-style-type: none"> <li>- Promoting tax reduction</li> <li>- Promoting inter-institutional cooperation/research programme</li> </ul>	<ul style="list-style-type: none"> <li>- To integrate and interconnect universities, IT firms and R&amp;D institutions to increase the culture of knowledge and innovation.</li> <li>- To turn the intellectual output of colleges and universities into innovative technologies.</li> <li>- To transform Curitiba into a high-tech economic centre</li> </ul>
Smart Mobility Air Quality in Curitiba - today and tomorrow	<ul style="list-style-type: none"> <li>- Volvo Bus Latin America</li> <li>- Siemens</li> <li>- Ericsson</li> <li>- Consortium between Swedish and Brazilian actors</li> </ul>	<ul style="list-style-type: none"> <li>- Developing fast high-power charging station for hybrid vehicle</li> <li>- Developing smart transport systems</li> <li>- Exploring the deployment of new technologies for sustainable mobility and energy efficiency</li> </ul>	<ul style="list-style-type: none"> <li>- To customise the Volvo's mobility intelligent transport system to the market needs of Latin America</li> <li>- To save money by ensuring low fares for travel, high service quality and extending free Internet connectivity to poorer segments for housing and recreation facilities.</li> <li>- To improve the quality of services in the urban area, reduce environmental impacts and open new areas for development.</li> </ul>
Curitiba creative economy online contest	<ul style="list-style-type: none"> <li>- Municipality</li> <li>- IPPUC</li> <li>- Designer</li> <li>- Companies</li> <li>- Citizens</li> </ul>	<ul style="list-style-type: none"> <li>- Submitting project: i) Design; ii) Fashion; iii) Audiovisual; iv) Leisure Software; and v) Computer Games.</li> <li>- Sharing comments, voting, improving project for final evaluation</li> </ul>	<ul style="list-style-type: none"> <li>- To engage individuals and companies in designing new business solutions for the sector of the creative and sustainable economy</li> <li>- To prompt the logic of "doing more with less" (solution based on originality and economic viability)</li> <li>- To improve the effectiveness of both educational initiatives and collaborative activities</li> </ul>
Green exchange. Garbage that is not garbage. Ecocitizen.	<ul style="list-style-type: none"> <li>- Municipality</li> <li>- IPPUC</li> <li>- Citizens</li> </ul>	<ul style="list-style-type: none"> <li>- Scavengers' association</li> <li>- Waste and Citizenship Institute</li> <li>- Schools</li> <li>- Day care centres</li> </ul>	<ul style="list-style-type: none"> <li>- Creating and selling artwork from recycled materials</li> <li>- Monetising the garbage</li> <li>- Exchanging garbage for public services and local food products</li> <li>- To educate children and their parents about garbage separation</li> <li>- To involve low-income people in entrepreneurial activities</li> <li>- To transform the entire city into a learning environment</li> <li>- To create social, environmental and economic value</li> </ul>

Source: Our elaboration



Tab. 3: Social roles, actors, resources and actions

Role	Actor	Resources	Actions
Initiator/Orchestrator	City Mayor - Jaime Lerner	<ul style="list-style-type: none"> <li>- Leader abilities and attributes</li> <li>- Architectural background</li> <li>- Political stability</li> <li>- Citizens' trust</li> <li>- European best practice and knowledge</li> <li>- Master plan based on public transit</li> </ul>	<ul style="list-style-type: none"> <li>- Debating publicly with the population at large on the master plan development</li> <li>- Leveraging immediate action to overcome long-term planning and help jump-start the change process within a community</li> <li>- Educating and making citizens aware through demonstrative action showing new possible projects and current effects</li> </ul>
I Level Facilitator (Think tank lab)	Institute of Research and Urban Planning IPPUC	<ul style="list-style-type: none"> <li>- Highly qualified planners, engineers, surveyors, geographers, sociologists and politicians</li> <li>- European best practice and knowledge</li> <li>- Citizens' trust</li> <li>- Strong collaborations with local and international partners</li> </ul>	<ul style="list-style-type: none"> <li>- Involving experts and citizens for multifaceted and systemic solutions through weekly intensive meeting.</li> <li>- Looking for advancing solution to reuse available resources (i.e. buildings from recycled materials).</li> <li>- Mobilising citizens (poor, youth, children) through active and responsible actions (i.e. parking maintaining, putting down protest against master plan, recycling trash).</li> <li>- Planning assistance to other cities (&gt;300).</li> </ul>
I Level Facilitator business hub	Curitiba Development Agency	<ul style="list-style-type: none"> <li>- Highly qualified professionals</li> <li>- Strong business relationships with local and international private companies installed or wishing to invest in Curitiba.</li> <li>- Strong collaborations with municipality, foundations, university and other institutions</li> </ul>	<ul style="list-style-type: none"> <li>- Promoting and managing business programmes</li> <li>- Promoting public-private partnerships for developing business</li> <li>- Promoting international business programme exchange</li> <li>- Prioritising the involvement of technicians from the city</li> <li>- Promoting the socioeconomic improvement of the city and its population</li> </ul>
II Level Facilitator business attractor	Curitiba Technopark	<ul style="list-style-type: none"> <li>- Knowledgeable actors within specific urban area</li> <li>- Knowledge and innovation culture</li> <li>- Strong research and business relationships with local and international actors</li> </ul>	<ul style="list-style-type: none"> <li>- Attracting productive opportunities of high added value and great competitiveness</li> </ul>
Partners/Beneficiaries	Private companies (e.g., Volvo Bus Latin America, Siemens, Ericsson)	<ul style="list-style-type: none"> <li>- Private -public companies' partnership agreements</li> <li>- Private companies' partnership agreements (previously competitors)</li> <li>- Companies' expertise and relationships</li> <li>- ICT solutions</li> </ul>	<ul style="list-style-type: none"> <li>- Extending free Internet connectivity to poorer segments</li> <li>- Promoting smart mobility</li> <li>- Ensuring low fares for travel and high service quality</li> <li>- Customising companies' ICT solutions (e.g., Volvo's mobility intelligent transport system) to the market needs of Latin America</li> <li>- Developing new technologies and enhancing existing products.</li> <li>- Improving extant relationships and developing new ones</li> </ul>
	MOU-Consortium Swedish and Brazilian public and private actors	<ul style="list-style-type: none"> <li>- Knowledgeable actors</li> <li>- Knowledge and innovation culture</li> <li>- Strong research and business relationships with local and international actors</li> <li>- Best practice exchange and contamination</li> </ul>	<ul style="list-style-type: none"> <li>- Deploying new technologies for sustainable mobility and energy efficiency</li> <li>- Developing a smart mobility system</li> <li>- Shaping new partnerships to improve the urban services quality</li> <li>- Making daily life smarter</li> </ul>
	Citizens	<ul style="list-style-type: none"> <li>- Curitiba cultural heritage</li> <li>- Curitiba pride</li> <li>- Memories</li> <li>- Ideas</li> <li>- Knowledge, skills, commitment</li> </ul>	<ul style="list-style-type: none"> <li>- Developing new business</li> <li>- Exchanging services for services (bus fares or theatre tickets) and for products (fresh fruits and vegetables)</li> <li>- Sharing revenues</li> <li>- Submitting ideas</li> <li>- Celebrating their engagement in active and responsible actions</li> </ul>

Source: Our elaboration

### *Initiators and orchestrators*

Within the Curitiba context, the mayor, at the individual level, and the municipality, at the collective level, are the initiators and orchestrators of the urban transformative process. They drive the development of Curitiba by viewing the city as a future-facing planning challenge rather than just an administrative challenge rooted in contingent problems (Arbel, 2012).

The former mayor Jamie Lerner promoted a new concept of the city as a living organism based on three main pillars: i) strong interdependencies and connection between the city's components, ii) a more localised community-based approach, and iii) small-scale and fast interventions showing solutions in action.

The orchestrating role played by Lerner was rooted in his vision and hope:

*“There is no endeavour more noble than the attempt to achieve a collective dream. What is important is to have a clear vision of what you want to achieve and be focused on continuously adapting and improving the solutions: a park can be created from a bike lane; a whole transportation system can be developed starting from one dedicated line”* (source: Lerner quote, cited in, Arbel 2012).

In addition, Lerner's professional abilities and leadership attitudes (i.e., persuasiveness) were key resources for the success story of Curitiba:

*“One of the important roles that leadership can take in this context is to promote a positive public agenda, to help conjure up the shared dream, to focus on it and to demonstrate how this scenario may come to pass”* (source: Lerner quote, cited in Arbel, 2012).

The positive results from the social programmes and the social projects promoted by the mayor and the municipality (i.e., the green exchange, garbage that is not garbage and ecocitizens) demonstrate the usefulness of the mayor's vision in managing city changes, that is, the community-based approach.

Specifically, fast work execution, a trial period and the demonstration of valuable solutions in action triggered positive chain reactions for the entire system. Such an approach allows municipalities to avoid bureaucracy and to manage and remove stakeholder resistance and thus to increase the trust of citizens. Citizens' trust represents the main critical resource to mobilise different actors (citizens, public, private sectors and civic society) to collaborate in innovative projects and to increase their sense of belonging to the city and pride in the co-created solution.

Five of the six mayors from 1976 to 1999 were architects, engineers, or planners who promoted the development of the city through a multi-actoral design process grounded in advanced and unconventional solutions to meet the changing needs of the entire community. Indeed, most of the best entrepreneurial solutions, such as the bus rapid transit system, have been implemented by partnerships among private firms, non-governmental organisations, municipal agencies, utilities, community groups and individual citizens (Hawken *et al.*, 1999, p. 290) through multiple levels of interaction (Figure 1).

Since 1965, collaboration and idea sharing between individual actors (e.g., mayors) and institutional actors (i.e., City Hall and IPPUC) to solve city problems have been codified as part of the daily planning exercise (Rabinovich, 1992). After 1979, this approach was extended to wider popular participation, including citizens and public organisations (Rabinovich, 1992).

The initiators/orchestrators established direct or mediated interactions/relationships with the entire local community and with many international actors (i.e., an international consortium). Such interactions also related to independent/dependent municipal agencies (i.e., IPPUC, the Curitiba Development Agency), which act as a nexus for integrating diverse sectors, services and systems to address resource efficiency and sustainable urban development solutions.

In sum, the culture and heritage of the city, the political stability, the technical knowledge of politicians and the opportunity to strengthen good partnerships (public/private-national/international) can be codified as the fundamental resources owned and integrated by the municipality to enact the city's transformative process.

#### *Facilitator*

The IPPUC is an autonomous and decentralised municipal autarchy that acts as a technical advisor to the mayor's office and guides the operational arm of the municipal government (Macedo, 2013) by planning, collecting resources and consolidating programmes and projects among the various municipality units and citizens. It is chaired by the mayor and includes a consortium of technicians from each municipality. Since its foundation in 1965, it has acted as a facilitator of the resource integration process by strategically coordinating, monitoring, upgrading and ensuring correct matching between the plan and the community's needs.

Knowledge and technical competences are mandatory resources during the plan design process and its implementation:

*“There is no point in making a plan to competent professionals without the accompaniment - both when developing and defining the main lines - of the staff who will run it. Because of this lack, many plans are shelved because those in charge of running them do not know them and do not believe in them”* (Source: Mayor Ivo Arzua quote, cited in Lobato, 2013; retrieved April 5, 2016).

The IPPUC acts as a think tank lab based on the constant interplay between planning and implementation activities to create city-wide collaborations that transcend mayoral administrations and provide expertise and channels of communication between actors to implement integrated cross-sectoral and cross-national projects and investments over time. Major and key specialists from different fields are involved in intensive daily meetings (i.e., charette) to quickly sketch multifaceted and systemic solutions to challenging situations.

To facilitate collaboration, in 1989, the IPPUC developed four “social networks” - the Municipal School, the Municipal Daycare Centers, the Municipal PIÁ (short for Integrated Childhood and Adolescence), and the Municipal Health Network - to involve people in learning activities

for the social and economic development of the community. In 1999, the programme “Typing the Future” (Fazzano and Weiss, 2004) established a public network of free Internet access that was accessible through the city’s libraries (i.e., Lighthouses of Learning), the local city hall offices in neighbourhoods and computer labs in secondary schools (Duarte *et al.*, 2014). This project involved Apple and social organisations in providing adults with free computer training activities to enhance their smart attitudes and to prepare very highly skilled workers.

The IPPUC acts as an active partner in many international/national service systems to foster the culture of cooperation. These include i) the UNESCO Creative Cities Network (UCCN), which promotes local and international cooperation with and among cities (116) that have identified creativity and cultural industry as a strategic factor for sustainable urban development; ii) the ICLEI, which is a global network of more than 1,500 cities, towns and regions committed to building a sustainable future; iii) the C40, which is a network of the world’s megacities committed to addressing climate change; iv) The International Council of Societies of Industrial Design (Icsid), an international non-governmental organisation that engages more than 140 member organisations from 40 nations to promote the profession of industrial design to generate a better environment and society through collaborative efforts and provides them with the opportunity to be heard internationally.

Similar to the IPPUC, the Curitiba Development Agency is a mixed semi-autonomous economy corporation working as a resource integration facilitator. It is a business hub and driving institution that was created in 2007 to contribute to the socioeconomic improvement of the city and its population. The agency prioritises the use of technicians from the city to manage business programmes and business relationships with companies installed or wishing to invest in Curitiba. It interacts with many actors (e.g., municipality, private companies, foundations, university, other institutions facilitating business improvement) in public-private partnerships to develop business-related bases and technologically focused infrastructure such as the “Curitiba Technopark”. The Technopark exploits tax reduction and other incentives to integrate and interconnect universities, IT companies and R&D institutions in both the public and private sectors. It concentrates knowledgeable actors within specific urban areas to increase the culture of knowledge and innovation in strategic sectors of high technology by attracting productive opportunities for high added value and high competitiveness. The Technopark works as a second-level facilitator within the service ecosystem and as a business attractor.

#### *Partners/beneficiaries*

Business companies and other organisations (e.g., public/private foundations, healthcare centres, educational organisations) act mainly as partners. Private companies collaborate with governmental institutions (e.g., Technopark, the Curitiba Development Agency, the IPPUC) as well as with other private companies to ensure low fares for travel and high service quality (e.g., private bus operators are paid based on performance - by distance travelled - whereas the rest of the money goes to maintaining

and improving transportation systems) and to extend free Internet connectivity to poorer segments in housing and recreation facilities.

Moving to the collaboration among private companies, Volvo Bus Latin America signed partnership agreements with Siemens within a wider project on smart mobility to develop a fast high-power charging station for hybrid vehicles and with Ericsson to develop an ICT system to customise Volvo's mobility intelligent transport system - including traffic management and passenger information - to Latin American market needs.

*“Ericsson is contributing its expertise to develop one of our leading-edge technologies and enhance an existing Volvo product. Together, we will improve urban mobility in cities” (Luis Carlos Pimenta, President of Volvo Bus Latin America quote, cited in Volvo Bus Latin America and Ericsson sign partnership to foster urban mobility, press releases from Ericsson Corporate Communications 2015).*

In 2013, the Memorandum of Understanding Consortium (MOU) between Swedish and Brazilian actors (Figure 1) was created to explore the deployment of new technologies for sustainable mobility and energy efficiency. It reconceptualises the well-known mobility model of Curitiba towards a smart mobility system within the smart city concepts project in Curitiba.

This project catalyses other initiatives and relationships between Swedish and Brazilian partners to reduce emissions impacts and improve air quality and health (i.e., the project “Air Quality in Curitiba - today and tomorrow”) (Dreier and Silveira, 2016). The consortium acts as partners in a co-responsible effort to improve the quality of services in the urban area, reduce environmental impacts and open new areas for development.

Additionally, citizens take an active role by collaborating as partners in designing and developing new and creative solutions for city development over time. They are involved daily by the leading team in discussions on specific urgent problems to act as problem solvers and solution providers, as shown in the following example cited by Mang (2009):

*In the 1990s, the municipality purchased buses that were twice the size with wide doors, redesigned and elevated station to allow boarding without steps, and decreasing the waiting time. Accidents due to the mismatching of the buses stopping and the automatic bus stop doors arose, to solve it, the planning team consulted both Volvo and the local drivers. Volvo wanted to sell us this system. It was almost as expensive as the bus. So I called the chief of drivers of the bus companies and I asked him, ‘Could you park this bi-articulated bus in this boarding tube?’ He said, ‘Of course I can do it.’ ‘You can do it?’ ‘Yes.’ He took a piece of tape and put it on the window of the bus and another piece of tape on the boarding tube. Since then, they’ve never had an accident” (source: Lerner quote, as cited in Mang 2009).*

Citizens are also involved in co-responsible activities to promote and maintain the sustainable development of the city. The municipality and the IPPUC, with the support of the four social networks, promoted many social programmes and learning initiatives as a civic engagement tool to integrate all citizens in the urban community. Many social initiatives have been specifically addressed to children, who are often recognised as the most effective agents of change.

For example, children were actively involved in sitting in the streets and painting murals against the anti-pedestrian mall protestors. More than thirty years later, new generations of children still take over the pedestrian mall and paint and draw pictures to celebrate that day (Mang, 2009). In this way, new generations increase their sense of belonging and responsibility for the city and its future.

*“I believe that you don’t need to invest in a sophisticated and advanced garbage separation system when the citizens can do it themselves (...) the garbage is brought to the plant, which is also built from recycled materials and employs handicapped people, alcoholics, and other underprivileged people. The recyclable items are sold to local industry. Sponges and fabrics are ground up and become stuffing for blankets, given to the poor”* (source: Lerner quote, cited in Arbel 2012).

Curitiba has one of the highest recycling rates in the world (approximately 70% of the city’s garbage) (Meyer *et al.*, 2019). Since 1989, specific initiatives (e.g., the green exchange, garbage that is not garbage and ecocitizens) on garbage separation and waste recycling have been developed together with schools and day care centres to educate children and their parents about garbage separation and to involve people from favelas in managing waste as a valuable resource.

Homeless and low-income persons are involved in entrepreneurial activities to monetise garbage by creating and selling artwork from recycled materials to souvenir shops as well as collecting and separating garbage from neighbourhoods that are inaccessible by trucks for the exchange of public services (bus tokens, theatre tickets and children’s school supplies) and food products (fresh fruits and vegetables) produced by local farmers.

## 5.2 *The resource integration mechanisms*

Actors use resources to co-create sustainable solutions for the development of Curitiba through different resource integration mechanisms we named: i) acupuncture, ii) charette, iii) education and iv) smart technologies.

These resource integration mechanisms entail both low- and high-tech solutions. Urban acupuncture and charette are useful low-technology methods. The first is a strategic approach focusing on small punctual interventions to produce significant change, whereas the second is its executing mechanism.

Urban acupuncture provides new energy to the city to trigger positive chain reactions for the whole system and assistance during the process of long-term planning. The charette has been adapted from the creative design process developed in the architectural field. It relates to the quick brainstorming of experts, functionaries and citizens to find alternative, inexpensive and creative solutions for contingent and long-planning activities. It leverages the experience of the citizens and the vision, values and ideas of the entire community; ideas are selected and evaluated according to objective and subjective criteria that are clearly established *ex ante* (Mang, 2009). Objective criteria relate to simplicity, speed, and frugality. Solutions that are simple in design, quickly implemented and

inexpensive are more sustainable; furthermore, they increase people's autonomy in their implementation and reduce reliance on experts and professionals in the solutions of ongoing management.

Subjective criteria (i.e., human-scale, landscape, life, memory, and continuity) address the need to revitalise and provide the city with new energy. Accordingly, the selected projects must enable more human interactions, leverage and integrate with the landscape, celebrate the roots of the culture and place (i.e., the identity) and reconnect underutilised or shanty-town areas to urban life. The commitment to the above criteria allows cities to address resource scarcity by increasing creativity.

*"If you want creativity, cut one zero from your budget. If you want sustainability, cut two zeroes from your budget"* (source: Lerner quote, cited in Arbel, 2012).

*The Wire Opera House is one of the most famous symbols of Curitiba. It was built in two months (speed) on the ruins of the abandoned mine in the city (continuity, landscape, identity) using recycled, inexpensive and readily available materials (simplicity, frugality) and with the support of the community as a whole. This cultural centre has an educational role as it symbolises the ability of the city to shift weak points by generating a change that will have far-reaching effects. Wire Opera House execution is a value statement that affects both visitors and citizens; it has the power to make visitors more aware of the value of sustainability and to make citizens aware of what they can accomplish for and through the city ( source Lerner quote, cited in Arbel, 2012).*

*"The city is not a problem, it is a solution (...) So, in a city, you have to work fast. Planning takes time. And I'm proposing urban acupuncture. That means some focal ideas to help the normal process of planning (...)"* (Lerner, 2007).

Both acupuncture and charette reconceptualise the community, the environment and the city itself as technological and innovation providers. They make people able to solve problems and to be effectively engaged in the economic and social development of the city. The active involvement of citizens is not a natural mechanism but requires an educational effort. This concept is clearly shown by the true commitment of the municipality to the education of all its citizens regarding the values of sustainability, solidarity and responsibility. These values have been instilled in citizens using a top-down approach to shape cities. The education process allows the transformation of the entire city into a learning environment by encouraging citizens to be active agents of change. At the operational level, education is an effective engagement mechanism to create partners that are aware of what they can and how they must integrate their own resources to create and capture value.

*"A society must decide what it wants to invest in - training people for creative life or in jails that they will end up in if they don't get an education and professional training"* (source: Lerner quote, cited in Arbel, 2012).

In addition, education is specifically addressed to encourage social integration and social inclusion. The following examples explain how such a concept is practically implemented: i) day centres provided street children living in the favelas with job opportunities (e.g., gardening work)

by engaging them in gardening courses and other educational activities relevant to their lives, ii) old buses were converted into classrooms and were sent on fixed days to various favelas around the city to teach adults basic literacy skills, and iii) the city's network of connectivity was improved, and wireless access points in some public areas has been created through specific projects (i.e., "Typing the Future" in 1999 and the "City of Knowledge" in 2005) to offer free Internet access (Duarte, 2014; Arbel, 2012). Recently, the spread of high-tech resource integration mechanisms related to smart technologies has allowed municipalities to improve the effectiveness of both educational initiatives and collaborative activities.

For example, more e-government services and relations centres have become available to citizens (i.e., the 156 service centre) (Duarte, 2014), and in 2016, the "Curitiba Creative Economy Online Contest" was launched to engage individuals and companies in designing new and creative business solutions in the sector of the creative and sustainable economy (Agencia Curitiba, 2016. Retrieved June 10, 2016).

Technologies have been integrated in and through the existing resource integration mechanism not only to improve service (electromobility, energy efficiency and low-carbon transport services) but to educate, empower, and promote the social inclusion of people and to design scenarios for up-scaling new sustainable solutions.

Open access fibre networks, free Internet access in low-income neighbourhoods, schools, electronic libraries, smart grids, mobility sensors, and new bus technologies perfectly match the collaborative nature of Curitiba by acting as a trigger mechanism to increase the value of collaboration. Accordingly, IT-based solutions positively affect the economic and social development of the urban context when they are integrated with other resources (e.g., city culture and identity, vision, hope, actors ability and skills) to engage citizens and other key stakeholders in co-responsible planning and management.

## 6. The co-responsibility practice

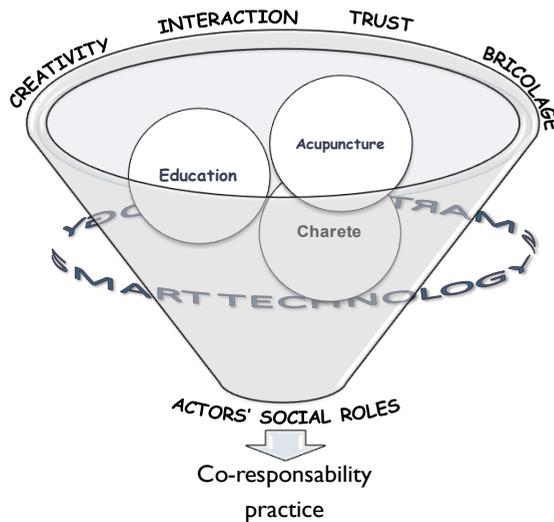
The development of a participatory approach and sharing of responsibility are topical conditions at the basis of service ecosystems innovation of Curitiba. The sharing of responsibility is an intrinsic social component of a resource-constrained context (Letaifa and Reynoso, 2015; Reynoso *et al.*, 2015). It implies a long-term design strategy and a well-planned practice, which we call co-responsibility, to actively and fruitfully mobilise key and knowledgeable stakeholders into both urban solution design and its implementation.

*"Every problem in a city has to have its own equation of co-responsibility and also a design"* (Lerner, 2007).

*"The solutions to big problems like pollution, climate change and poverty are within us. We don't need big money to save us, just a little bit of co-responsibility and thinking outside the box. It can be as simple as just saying no to plastic and walking to the store instead of driving. Everything counts"* (source: Lerner, cited in Arbel, 2012).

The practice of co-responsibility (Figure 2) addresses innovation needs through sustainable, collaborative and scalable solutions (Carida, 2018). Service innovation relies on four main resources - creativity, interactions, trust and bricolage - and emerges through the interplay of charette, acupuncture, education and smart technologies. The interplay among these components prompt the practice of co-responsibility through the enactment of multiple social roles i.e initiators, orchestrators, facilitators, partners and beneficiaries. This practice supports the development and diffusion of service innovation in emerging economies.

Fig. 2: The practice of co-responsibility



Source: Adapted from Carida 2018.

Creativity is the key resource to match the best possible quality of life with the lowest possible use of resources to provide alternative solutions to the wider urban context (Domareski-Ruiz *et al.*, 2019); interactions are the key resource to transform cities into living and interconnected ecosystem. Trust-based relationships allow the building of social values, such as identity, belonging, solidarity, and shared vision, and ties among local and international networks (Hojda *et al.*, 2019). Trust nurtures citizens' participation and play a key role to overcome the pervasive social problem of corruption in Brazil. Bricolage is the ability to do more by doing less and it is fundamental to enact sustainable innovation as it is rooted in simplicity, easy and rapid implementation, frugality and resource reuse. The resource integration mechanisms (see sub-paragraph 5.2) match, activate and integrate resources through the multiple social roles actors enact. Actors' social roles are also valuable resources; they are a function of each actor's resources, means, and knowledge and are empowered by the useful implementation of resource integration mechanisms.

Smart technologies have a double role, they act as cross-cutting and triggering mechanisms boosting the effects of both low-tech resource

integration mechanisms and of the fundamental resources deepening the practice of co-responsibility (Caridà, 2018). Smart technologies extend the practice of co-responsibility to the whole community as they allow synergies and interoperability within and across city policy domains and systems (e.g., transportation, energy, education, health and care, utilities) and re-shape citizens' daily lives by upgrading their knowledge and thinking abilities (e.g., Lighthouses of Learning, computer training). Accordingly, the Internet and smart technologies redesign the system of relationships between the government, private sector, nonprofits, communities and citizens.

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The co-responsibility practice emerges through the interplay of resources, actors and integrating mechanisms and it allows innovative ways of doing by growing the co-commitment of actors to using and finding new way to integrate existing resources and build new ones. Making actors, including citizens aware of the effects of their involvement ensures both the possibility of development and the diffusion of innovation in emerging e economies

## 7. Theoretical and managerial implications

This study addresses the service innovation in emerging economies.

It draws on a service ecosystem perspective (Vargo and Lusch, 2011) to enrich the understanding of service innovation in emerging economies and to provide a tangible practice for its development and diffusion (Rubalcaba *et al.*, 2016; Ostrom *et al.*, 2015).

From a theoretical point of view, the service ecosystem perspective (Letaifa and Reynoso, 2015; Vargo and Lusch, 2011) captures the complexity of emerging market and contexts (Reynoso, 2015). It allows us to move beyond the more traditional issues of socially sound companies' innovation in emerging economies. Such a perspective addresses the need to go beyond single solutions and initiatives towards a more systemic approach that connects the entire community and depicts innovation as a new way of doing business in a context of interlinked elements and practice (i.e., actors, resources and integration mechanisms). In emerging economies, service innovation is socially driven and specifically addressed to provide inclusive solutions that benefit the entire community (Rubalcaba *et al.*, 2016; Reynoso *et al.*, 2015). Accordingly, it emerges through the active involvement of a network of actors that act as both resource providers and value beneficiaries.

This paper makes original contributions to scientific and practice debates with implications for scholars, managers and policy makers.

First the paper opens up to the role of multiple actors, including those who are commonly excluded and perceived as passive recipients (i.e., the poorest living at the BoP); these actors are themselves valuable resources. They co-create and capture social and economic value by integrating resources (e.g., knowledge, professional competences, values) in accordance with the social roles they enact (Akaka and Chandler, 2011; Tronvoll, 2017). These roles are initiators, orchestrators, facilitators and

partners and are neither static nor mutually exclusive. They can change and integrate themselves according to the various levels of interaction - micro, meso and macro (Akaka *et al.*, 2013) - through which actors put into practice their intended activities.

Second, the paper provides the co-responsibility practice that address service innovation as emerging through interplay of a complex system involving multiple actors, resources, roles and mechanisms of integration. Service innovation implies the rebundling of diverse resources to create novel resources beneficial to some actors in a given context (Koskela-Huotari *et al.*, 2016; Koskela-Huotari and Edvardsson, 2018; Lusch and Nambisan, 2015),

In resource-constrained contexts, co-responsibility is the main practice for promoting social and economic development. It relies on key elements we identified as integral to service innovation in emerging economies. These elements relate to fundamental resources (e.g., interaction, creativity, trust and bricolage) and resource integration mechanisms, which imply both social and technological issues (i.e., charette, acupuncture, education and smart technologies). Service innovation thus reflects a synthesis perspective (Rubalcaba *et al.*, 2016). It implies promoting changes in a context of interlinked elements, which includes the use of resources, actors' actions and the integration processes.

Third the paper frames practice of responsibility as an institutionalised form of service innovation that is able to economically sustain itself and to address multiple business social issues according to an ecosystem view. Co-responsibility puts actors and the roles they enact at the centre and emphasises collaboration among them as the key to providing low-cost, creative and alternative urban development solutions based on social value and integrated systems. It deals with "doing more by doing less" (Reynoso *et al.*, 2015; Gebauer and Reynoso 2013) and with the enactment of inclusive service as the emergent outcome of innovation activities. The practice of co-responsibility provides an alternative view of service innovation in emerging economies that is rooted in the effective implementation of the sharing of responsibility and the active engagement of the entire community in solution design and implementation processes. It is not limited to the individual perspective of the service provider (public or private) but entails the complexity of the service ecosystem as the key to understanding and developing inclusiveness. In these service ecosystems, technology is an inherent element of social innovation (Hojda *et al.*, 2019; Reynoso *et al.*, 2015), and its inclusive and social roles prevail and affect both the hard and soft dimensions of service innovation in emerging economies. It is specifically tailored to enhance the emancipation of actors, particularly those who live at the BoP, by allowing access to new services and the creation of smart and empowered actors. In this view, technology boosts value co-creation and social innovation and contributes to the proper harmonisation of the different stakeholders' interests for the improvement of the well-being of individuals and the overall system (Pellicano *et al.*, 2017). Because of its role in service innovation practice, we differentiate technology (Sklyar *et al.*, 2019) from other resource-integration mechanisms as it acts as a triggering mechanism that boosts

systemic networking and the development of new social practices, which are perceived by the whole community as the most natural way to improve the collective well-being of society.

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The practice of co-responsibility has also implication from a managerial point of view. In emerging economies, the actors' engagement mechanisms are often designed and developed without the active involvement of the beneficiaries and local actors, thus, the failure of many innovation initiatives depends on the lack of interaction with the intended users and on the resulting mismatch between the solution provided and the ability of the targeted customers to put it into practice (Letaifa and Reynoso, 2015). Co-responsibility practices can support managers to see at innovation as scalable and sustainable practice that is rooted in and nurtured by social values i.e. solidarity, inclusiveness.

Moreover, this study contributes reflections and suggestions on the systemic and recursive nature service innovation and can lead policy makers to elaborate strategies for optimising the development and implementation of new and creative solutions to solve all community problems and increase the well-being of both emerging and developed economies facing economic crises and resource constraints.

## 8. Limitations and further research

The main limitations of this study are the single case study, which does not allow the generalisation of the results, and the case study, we chose, as Curitiba is an excellent case (although not the only one) within the landscape of developing economies.

This work represents the starting point for further empirical studies to investigate other emerging economies to establish practices for the development and management of service innovation in developing economies.

## References

- AKAKA M.A., CHANDLER J.D. (2011), "Roles as resources: A social roles perspective of change in value networks", *Marketing Theory*, vol. 11, n. 3, pp. 243-260.
- AKAKA M.A., VARGO S.L. (2015), "Extending the context of service: from encounters to ecosystems", *Journal of Services Marketing*, vol. 29, n. 6/7, p.p. 453-462.
- AKAKA M.A., VARGO S.L., LUSCH R.F. (2012), "An exploration of networks in value cocreation: A service-ecosystems view", in Vargo S., Lusch R. (Ed.) *Special Issue - Toward a Better Understanding of the Role of Value in Markets and Marketing. Review of Marketing Research*, Emerald Group Publishing Limited, Bingley, vol. 9, pp. 13-50.
- AKAKA M.A., VARGO S.L., LUSCH R.F. (2013), "The complexity of context: A service ecosystems approach for international marketing", *Journal of Marketing Research*, vol. 21, n. 4, pp. 1-20.

- AKSOY L., GUILLOUX L., DUNEIGRE H., KEITA S. (2019), "Service research priorities-bridging the academic and practitioner perspectives", *Journal of Services Marketing*, vol. 33 n. 5, pp. 626-63
- ARBEL Y. (2012), "Urban Acupuncture-Curitiba as an Allegory", C2City Education City.
- BEIRÃO G., PATRÍCIO L., FISK R.P. (2017), "Value cocreation in service ecosystems: Investigating health care at the micro, meso, and macro levels", *Journal of Service Management*, vol. 28, n. 2, pp. 227-249.
- CARIDÀ A. (2018), "Pratiche smart di co-creazione del valore nell'ecosistema di servizio: il caso Curitiba" in Caridà A., (a cura di), *Le tecnologie interattive per la co-creazione di valore*, Aracne editrice: Roma.
- CARIDÀ A., COLURCIO M., MELIA M. (2015), "Designing a collaborative business model for SMEs", *Sinergie Italian Journal of Management*, vol. 33, n. 98, pp. 233-253.
- CARIDÀ A., EDVARDSSON B., COLURCIO M. (2019), "Conceptualizing resource integration as an embedded process: Matching, resourcing and valuing", *Marketing Theory*, vol. 19, n. 1, pp. 65-84.
- CARLBORG P., KINDSTRÖM D., KOWALKOWSKI C. (2014), "The evolution of service innovation research: a critical review and synthesis", *The Service Industries Journal*, vol. 34, n. 5, pp.373-398.
- COLURCIO M., CARIDÀ A., EDVARDSSON B. (2017), "Conceptualizing Resource Integration to Advance Service Innovation", in Russo-Spena T., Mele C., Nuutinen M (Eds.), *Innovating in Practice* (pp. 237-259), Springer, Cham.
- DEMIRKAN H., KAUFFMAN R.J., VAYGHAN J.A., FILL H. G., KARAGIANNIS D., MAGLIO P.P. (2008), "Service-oriented technology and management: Perspectives on research and practice for the coming decade", *Electronic Commerce Research and Applications*, vol. 7, n. 4, pp. 356-376.
- DOMARESKI-RUIZ T.C., SCALISE HORODYSKI G., CARNIATTO I.V. (2019), "A economia criativa e o turismo: uma análise do projeto soucuritiba, de Curitiba-Paraná-Brasil", *Revista Gestão e Desenvolvimento*, vol. 16, n. 2, pp. 145-169.
- DREIER D., SILVEIRA S. (2016), "Smart City Concepts in Curitiba-innovation for sustainable mobility and energy efficiency: Project", *KTH NEWSLETTER*, January 2016.
- DUARTE F., DE CARVALHO FIGUEIREDO F., LEITE L., ALCIDES REZENDE D. (2014), "A conceptual framework for assessing digital cities and the Brazilian index of digital cities: Analysis of Curitiba, the first-ranked city", *Journal of Urban Technology*, vol. 21, n. 3, pp. 37-48.
- EDVARDSSON B., TRONVOLL B. (2013), "A new conceptualization of service innovation grounded in SD logic and service systems", *International Journal of Quality and Service Sciences*, vol. 5, n. 1, pp. 19-31.
- EDVARDSSON B., TRONVOLL B., GRUBERT T. (2011), "Expanding understanding of service exchange and value co-creation: a social construction approach", *Journal of the Academy of Marketing Science*, vol. 39, n. 2, pp. 327-339.
- EISENHARDT K.M. (1989), "Building theories from case study research", *Academy of Management Review*, vol. 14, n. 4, pp. 532-550.
- ERICSSON CORPORATE COMMUNICATIONS (2015), *Volvo Bus Latin America and Ericsson sign partnership to foster urban mobility. Press releases*. Retrieved june, 3, 2016 from <https://www.ericsson.com/news/1922757>

- FAZZANO A., WEISS M.A. (2004), "Global urban development, Curitiba, Brazil", *Metropolitan Economic Strategy Report*. Retrieved may, 10, 2016 at: [http://www.globalurban.org/GUD\\_Curitiba\\_MES\\_Report.pdf](http://www.globalurban.org/GUD_Curitiba_MES_Report.pdf)
- GALLOUJ F., RUBALCABA L., TOIVONEN M., WINDRUM P. (2018), "Understanding social innovation in services industries", *Industry and Innovation*, vol. 25, n. 6, pp. 551-569.
- GEBAUER H., REYNOSO J. (2013), "An agenda for service research at the base of the pyramid", *Journal of Service Management*, vol. 24, n. 5, pp. 482-502.
- GOVINDARAJAN V., RAMAMURTI R. (2011), "Reverse innovation, emerging markets, and global strategy", *Global Strategy Journal*, vol. 1, n. 3-4, pp. 191-205.
- HALME M., LINDEMAN S., LINNA P. (2012), "Innovation for inclusive business: Intrapreneurial bricolage in multinational corporations", *Journal of Management Studies*, vol. 49, n. 4, pp. 743-784.
- HAMMERSLEY M., ATKINSON P. (1995), *Ethnography: Practices and principles*, Routledge, New York.
- HAWKEN P., LOVINS A., LOVINS L.H. (1999), *Natural capitalism: Creating the next industrial revolution*, Little, Brown and Company, Boston.
- HOJDA A., FARINIUK T.M.D., SIMÃO M.D.M.B. (2019), "Building a smart city with trust: the case of '156 central' of Curitiba-Brazil", *Economía Sociedad y Territorio*, vol. 60, n. 60, pp. 79-108.
- HSU H.Y., LIU F.H., TSOU H.T., CHEN L.J. (2019), "Openness of technology adoption, top management support and service innovation: a social innovation perspective", *Journal of Business and Industrial Marketing*, vol. 34, n. 3, pp. 575-590.
- ICLEI (2013), *Congress Report 4th Global Forum on Urban Resilience and Adaptation Bonn*, Germany, 31 May - 2 June, 2013.
- ICLEI (2016), *Congress Report 7th Global Forum on Urban Resilience and Adaptation Bonn*, Germany 31 May - 2 July 2016
- IPPUC (2016), "Sustainable Curitiba", report, Prefeitura Municipal de Curitiba.
- IPPUC (2014), "Curitiba, Brazil The Ecological Capital forerunner" in Urban NEXUS planning.
- IPPUC (2009), "Sustainable Curitiba", report, Prefeitura Municipal de Curitiba.
- KANDAMPULLY J., FAN X., PAULOSE H. (2015), "Learning from socially-driven service innovation in emerging economies", *Journal of Service Management*, vol. 26 n. 1, pp. 156-176.
- KOSKELA-HUOTARI K., EDVARDSSON B. (2018), "Emergence of Novel Resources in Service Ecosystems" in Vargo S.L., Lusch R.F., *The SAGE Handbook of Service-Dominant Logic*, Chapter 22, pp. 372-387.
- KOSKELA-HUOTARI K., EDVARDSSON B., JONAS J.M., SÖRHAMMAR D., WITTELL L. (2016), "Innovation in service ecosystems-Breaking, making, and maintaining institutionalized rules of resource integration", *Journal of Business Research*, vol. 69, n. 8, pp. 2964-2971.
- LERNER J. (2007), "Jamie Lerner: Sing a song of sustainable cities", Paper presented at the TED Conference February, 2007. Retrieved april 5, 2016, from [http://www.ted.com/index.php/talks/jaime\\_lerner\\_sings\\_of\\_the\\_city.html](http://www.ted.com/index.php/talks/jaime_lerner_sings_of_the_city.html)
- LETAIFA B., REYNOSO J. (2015), "Toward a service ecosystem perspective at the base of the pyramid", *Journal of Service Management*, vol. 26, n. 5, pp. 684-705.

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 Maria Colurcio  
 Tiziana Russo Spina  
 Jay Kandampully  
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- LOBATO T.K. (2013), "Indígenas e não indígenas na administração pública: uma etnografia da Secretaria de Estado para os Povos Indígenas (Seind) do Amazonas", *Dissertação (Mestrado em Antropologia Social)-Setor de Ciências Humanas*, Universidade Federal do Paraná, Curitiba, 2013.
- LÖBLER H. (2013), "Service-dominant networks: An evolution from the service-dominant logic perspective", *Journal of Service Management*, vol. 24, n. 4, pp. 420-434.
- LUSCH R.F., NAMBISAN S. (2015), "Service innovation: A service-dominant logic perspective", *Mis Quarterly*, vol. 39, n. 1, pp. 155-175.
- LUSCH R.F., VARGO S.L., GUSTAFSSON A. (2016), "Fostering a trans-disciplinary perspectives of service ecosystems", *Journal of Business Research*, vol. 69, n.8, pp. 2957-2963.
- MACEDO J. (2013), "Planning a sustainable city: The making of Curitiba, Brazil", *Journal of Planning History*, vol. 12, n. 4, pp. 334-353.
- MANG N. (2009), A leadership case study of Curitiba, Brazil, Regenes Group.
- MARKIDES C.C. (2012), "How disruptive will innovations from emerging markets be?", *MIT Sloan Management Review*, vol. 54, n. 1, p. 23.
- MELE C., COLURCIO M., RUSSO-SPENA T. (2014), "Research traditions of innovation: Goods-dominant logic, the resource-based approach, and service-dominant logic", *Managing Service Quality*, vol. 24, n. 6, pp. 612-642.
- MELE C., RUSSO SPENA T. (2015), "Eco-innovation practices", *Journal of Organizational Change Management*, vol. 28, n. 1, pp. 4-25.
- MEYER JR. V., MAMÉDIO D.F., OLIVEIRA A.R., DIB N.B. (2019), "Convergence between performance and amateur management of a social organisation", *International Journal of Productivity and Performance Management*, vol. 68, n. 8, pp. 1493-1509.
- OJO A., CURRY E., JANOWSKI T., DZHUSUPOVA Z. (2015), "Designing Next Generation Smart City Initiatives: The SCID Framework", *In Transforming City Governments for Successful Smart Cities*, pp. 43-67, Springer International Publishing.
- OSTROM A.L., PARASURAMAN A., BOWEN D.E., PATRÍCIO L., VOSS C. A., LEMON K. (2015), "Service Research Priorities in a Rapidly Changing Context", *Journal of Service Research*, vol. 18, n. 2, pp. 127-159.
- PELLICANO M., TROISI O., TUCCILLO C., VESCI M. (2017), "Linking social entrepreneurship and innovation through the lens of the value co-creation process", *Sinergie Italian Journal of Management*, vol. 35, n. 104, pp. 93-113.
- PHILLS J.A., DEIGLMEIER K., MILLER D.T. (2008), "Rediscovering social innovation", *Stanford Social Innovation Review*, vol. 6, n. 4, pp. 34-43.
- POL E., VILLE S. (2009), "Social innovation: Buzz word or enduring term?", *The Journal of Socio-Economics*, vol. 38, n. 6, pp. 878-885.
- PRAHALAD C.K. (2012), "Bottom of the Pyramid as a Source of Breakthrough Innovations", *Journal of Product Innovation Management*, vol. 29, n. 1, pp. 6-12.
- RABINOVITCH J. (1992), "Curitiba: towards sustainable urban development", *Environment and Urbanization*, vol. 4, n. 2, pp. 62-73.
- REIS R.S., HALLAL P.C., PARRA D. C., RIBEIRO I.C., BROWNSON R.C., PRATT M., RAMOS L. (2010), "Promoting physical activity through community-wide policies and planning: findings from Curitiba, Brazil", *Journal of Physical activity and Health*, vol. 7, n. 2, pp.137-145.

- REYNOSO J., KANDAMPULLY J., FAN X., PAULOSE H. (2015), "Learning from socially driven service innovation in emerging economies", *Journal of Service Management*, vol. 26, n. 1, pp. 156-176.
- RUBALCABA L., ABOAL D., GARDA P. (2016), "Service innovation in developing economies: Evidence from Latin America and the Caribbean", *The Journal of Development Studies*, vol. 52, n. 5, pp. 607-626.
- RUSSO SPENA T., MELE C. (2012), "Five Co-s' in innovating: a practice-based view", *Journal of Service Management*, vol. 23, n. 4, pp. 527-553.
- SANTORO G., FERRARIS A., VRONTIS D. (2018), "Open social innovation: towards a refined definition looking to actors and processes", *Sinergie Italian Journal of Management*, vol. 36, n. 105, pp. 25-42.
- SIGGELKOW N. (2007), "Persuasion with case studies", *Academy of Management Journal*, vol. 50, n. 1, pp. 20-24.
- SILTALOPPI J., KOSKELA-HUOTARI K., VARGO S.L. (2016), "Institutional complexity as a driver for innovation in service ecosystems", *Service Science*, vol. 8, n. 3, pp. 333-343.
- SIVAPRAKASAM S., SRINIVASAN R. (2015), "Frugal Services Innovation-Lessons from the Emerging Markets and an Adoption Framework for First-World Corporations and Governments", in *The Handbook of Service Innovation*, pp. 683-702, Springer, London.
- SKÅLÉN P., GUMMERUS J., VON KOSKULL C., MAGNUSSON P.R. (2014), "Exploring value propositions and service innovation: a service-dominant logic study", *Journal of the Academy of Marketing Science*, vol. 43, n. 2, pp.137-158.
- SKLYAR A., KOWALKOWSKI C., TRONVOLL B., SÖRHAMMAR D. (2019), "Organizing for digital servitization: A service ecosystem perspective", *Journal of Business Research*, vol. 104, pp. 450-460.
- STAKE R.E. (2011), "Qualitative research and case study", *Silpakorn Educational Research Journal*, vol. 3, n. 1-2, pp. 7-13.
- TRONVOLL B. (2017), "The actor: The key determinant in service ecosystems", *Systems*, vol. 5, n. 2.
- VARGO S.L., LUSCH R.F. (2008), "Service-dominant logic: continuing the evolution", *Journal of the Academy of Marketing Science*, vol. 36, n. 1, pp. 1-10.
- VARGO S.L., LUSCH R.F. (2011), "It's all B2B... and beyond: Toward a systems perspective of the market", *Industrial Marketing Management*, vol. 40, n. 2, pp. 181-187.
- VARGO S.L., WIELAND H., AKAKA M.A. (2016), "Innovation in service ecosystems", *Journal of Serviceology*, vol.1, n. 1, pp. 1-5.
- VARGO S.L., WIELAND H., AKAKA M.A. (2015), "Innovation through institutionalization: A service ecosystems perspective", *Industrial Marketing Management*, vol. 44, p. 63-72
- YIN R. (2009), *Case study research: design and methods. Applied social research methods*, Sage publications, Thousand Oaks California.
- YUNUS M., MOINGEON B., LEHMANN-ORTEGA L. (2010), "Building social business models: Lessons from the Grameen experience", *Long range Planning*, vol. 43, n. 2-3, pp. 308-325.

## Academic or professional position and contacts

### **Angela Caridà**

Senior Research Fellow of Management  
University of Magna Græcia di Catanzaro - Italy  
e-mail: [angela.carida@unicz.it](mailto:angela.carida@unicz.it)

### **Maria Colurcio**

Full Professor of Management  
University of Magna Græcia di Catanzaro - Italy  
e-mail: [mariacolurcio@unicz.it](mailto:mariacolurcio@unicz.it)

### **Tiziana Russo Spina**

Associate Professor of Management  
University Federico II of Naples - Italy  
e-mail: [russospe@unina.it](mailto:russospe@unina.it)

### **Jay Kandampully**

Full Professor of Service Management  
Ohio State University - USA  
e-mail: [kandampully.1@osu.edu](mailto:kandampully.1@osu.edu)



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