VALUE CO-CREATION IN SMART CITIES:

MEASURES OF DECISION-MAKING SYSTEM BENEFITS

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Abstract

Purpose – The turbulence and complexity of the current environmental scenario make central the role played by governance models more geared towards participation and collaboration among the various social actors (Troisi et al., 2016, 2017). Such collaboration becomes effective with the support of advanced technological instruments (Tommasetti et al., 2015), as is the case in Smart Cities (Adler et al., 2011). If organize all aspects of the environment is very hard, it is also truth environmental resources are integrated to create value (Lusch and Vargo, 2006). In this regard, the work aims at re-reading Smart Cities in the light of value co-creation practices (Frow et al, 2014), trying to capture the factors that local administrators can leverage to pursue a more acute development of Local communities. In particular, the focus is placed on value propositions that are offered, the resources that are available, and the co-creation practices manifest (Frow, Pennie, Janet R. McColl-Kennedy, and Adrian Payne. 2016).

Design/Methodology/approach – The work is based on an exploratory approach, based on the single case model (holistic) (Yin, 2013) to analyze the value co-creation practices (Frow, P., McColl-Kennedy, J. R., Hilton, T., Davidson, A., Payne, A., & Brozovic, D., 2014) in the context of smart city, that is innovative area in the urban technology sector (Komninos 2002, Aurigi 2005, Carillo 2006, Hollands 2008). These considerations are in line with the innovative drive

offered by the Service Dominant Logic, which emphasizes a different way of understanding the service and the relative delivery processes (Vargo and Lusch, 2008).

Findings – Starting from the study of a broad theoretical background, the work highlights the possibility of framing in value co-creation practices in the Smart Cities, trying to capture the factors that local administrators can leverage to pursue a more acute development of local communities. The result is a model of government comparable to a service eco-system in which people, technology and institutions are appropriately combined to generate a value that is then redistributed to all those who, Different measure and with different modes participated in its determination (Schaffers et al., 2011).

Research limitations – The article presents a main weakness, linked to the authors' choice to confine the work to an only single case study relating to one city and not to other cities. However, this limit provides the opportunity, in future researches, to make appropriate comparisons between different cities, for example highlighting similarities and differences that could guarantee a more reliable generalization of the results.

Practical implications – The work offers interesting insights for improving the results pursued in different areas of administrative life. In fact, value co-creation practices underline that an adequate combination of activities carried out by administrators, citizens-users, technology and other players in social life leads to improved performance. The work furthermore highlights the importance of value-added practices as tools to facilitate the involvement of a number of social actors, who are differently interested in contributing to the definition of processes of value generation (Ciasullo & Troisi, 2015).

Originality/value – The innovative nature of the work arises from the authors' choice to analyze the theoretical background on practices in terms of co-created value and to connect these practices to the Smart City, enabling arriving at a conceptual result steeped in value for scholars and practitioners interested in both business management and technology engineering.

Key words – Co-creation practices; Resource integration; Value co-creation; Smart City, Service management.

Paper type – Conceptual paper

1. Introduction

The turbulence and complexity of the current environmental scenario make central the role played by governance models more geared towards participation and collaboration among the various social actors (Troisi et al., 2016, 2017). In fact, the changes that followed in the public administration contexts have also invested citizens' governments, increasingly called upon to offer a wide range of services that can increase the well-being of citizens.

Several scholars (Komninos 2002, Aurigi 2005, Carillo 2006, Hollands 2008) emphasize the importance of so-called smart cities with flexible information processes, creativity and innovation facilitation mechanisms, smart and sustainable solutions and platforms. These features imply profound changes in the production and delivery of local public services, giving rise to an ever-growing involvement of all those who, in various respects, participate in value-generation processes. These considerations are in line with the innovative drive offered by the Service Dominant Logic, which emphasizes a different way of understanding the service and the relative delivery processes (Vargo and Lusch, 2008).

Starting from these considerations, the work aims at re-reading Smart Cities in the light of value co-creation practices (Frow et al, 20), trying to capture the factors that local administrators can leverage to pursue a more acute development of Local communities. To pursue this goal, a case study was conducted on an example of intelligent city excellence.

Paper, in fact, is structured in three sections. In the first, focuses on how value co-creation practices can be identified within Smart Cities; in the second part, as anticipated, a case study is reported about the city of Turin, and finally, the conclusions of the work are presented and discussed, highlighting also the relative theoretical and managerial implications of the work.

2. Theoretical background

2.1 Value co-creation practices

The world is constituted through practices that are based on shared understanding and are composed by tools, knowledge, images and physical space (Reckwitz, 2002).

In particular value co-creation practices are interaction activities between the actors, that could be companies or any other subject been in considered ecosystem. The actors share their resources to make value proposals against the social context in which the actors operate, which mature expectations toward the proposal that it receives (Frow, P., McColl-Kennedy, J. R., Hilton, T., Davidson, A., Payne, A., & Brozovic,

D. (2014)). In fact, it is very hard to organize all aspects of the environment, but it is also truth environmental resources are integrated to create value (Lusch and Vargo, 2006).

The interactions between the actors facilitates co-creation experience and dialog, access, risk-benefits and transparency are the basis for this process (Prahalad, Coimbatore K., & Venkat Ramaswamy (2004)).

When there is these practices, there are various benefits that relate to different aspects, like the customers active involvement, that could bring to the innovative products development (Herstatt & von Hippel, 1992; Lagrosen, 2005; von Hippel, Thomke, & Sonnack, 1999; Walter, 2003; Prahalad, Coimbatore K., and Venkat Ramaswamy, 2004). There is also the possibility that value co-creation practices could be negative for the actors and could bring to the co-destruction, in fact some authors describe several examples of co-destruction occurring in the context of transport services (Echeverri, Per, and Per Skålén, 2011) and in the context of supply chain relationship (Marcos-Cuevas, Javier, et al. ,2015).

There are many categorizations about practices. A first categorization is given by Kjellberg e Helgesson about market practices (2007), that subdivide practices in exchange practices (activities that stabilize market practices); representational practices (activities that represent the market through symbols, figures and statistics); and normalizing practices (activities that set the legal laws). Therefore, the conceptual model presents markets as the results of three interlaced types of practices and explain the differences about how markets are constantly realized.

Other categorization of practices is proposed by Skålén, Gummerus, von Koskull, and Magnusson (2014) that find ten common practices, ordered in three main groups, that constitute and realize value propositions. The groups are composed by provision practices (operative activities that support the value creation processes); representational practices (activities that communicate the meaning of the value proposition); and management and organizational practices (activities that support in achieving of the value proposition).

Frow, Pennie, Janet R. McColl-Kennedy, e Adrian Payne (2016) contribute on the literature about value co-creation practice developing a typology of co-creation practices. These practices figure a health care service ecosystem, identifying practices, that some have positive effects, other have negative effects, and other can have either positive or negative effects on the service ecosystem and providing indicative measures of co-creation practices. In particular the co-creation practices are eight: practices that endow actors with social capital, practices that provide an ecosystem with a shared language, symbols, signs and stories, practices that shape an actor's mental model, practices that impact the ecosystem, created or constrained by the physical structures and institutions that form their contexts, practices that shape existing value propositions and inspire new ones, practices that impact access to resources within an ecosystem, practices

that forge new relationships, generating interactive and/or experiential opportunities and practices that are intentionally co-destructive creating imbalance within the ecosystem.

Generally further authors used the concept of “practice”.

DeVries, S. I. E. B. R. I. C. H., Beijaard, D. O. U. W. E., & Buitink, J. A. A. P. (2007) report the results of a four-year research project on CCEP, that is a method involve collaboration by experienced teachers and student teachers in accordance with the principles of educational action research. The new educational practices is based on teaching and learning issues selected by the experienced teachers.

Furthermore, Golooba, M. and Ahlan, A. R. (2013) investigate the concept of practices regard the service value co-creation in research & innovation in higher education institutions in Malaysia. They study the idea of value co-creation between HEIs and the Industry to increase the volume and value of research through a platform that integrate and share resources for each ones benefit.

Lastly, Langley, J. (2015) speaks about creative practices, participatory design, and creative practices as a way to co-create knowledge. They define the design not like a science or an art, but like a practice, that uses science, is supported by technology and is driven by creativity and the imagination. Participatory design connects people and communities and relating different ideas could create co-creation.

Therefore, the co-creation practices are activities, where actors engage collaboratively in activities through interactions within a specific social context (Frow, Pennie, Janet R. McColl-Kennedy, and Adrian Payne; 2016). In many areas this practices are relevant, ad examples in the marketing the practices could create a beneficial for actors collaboration within the ecosystem, but also, as mentioned before, for the transports area, supply chain area and health-care system. Could be interesting found value co-creation practice for the smart city, that is innovative area in the urban technology sector.

2.2 Analyzing smart cities in terms of co-created value

The increasing attention of scholars (Komninos 2002, Aurigi 2005, Hollands 2008) to Smart Cities has been dictated by the need to solve atavistic problems (high degree of bureaucracy, complexity of processes, excessive urban traffic, etc.) Which, for too long, have afflicted cities, both large and small. Toppeta (2010) suggests, in this regard, that a suitable combination of new information and communication technologies and organizational planning allows for the dematerialization of economic processes, simplification of service delivery processes and Reduction of the degree of bureaucracy existing in administrative proceedings. On this wake, other scholars (Eriksson Zetterquist et al, 2011; Garvin 1993) have highlighted

how smart cities, understood as true learning organizations, are able not only to create, develop and acquire knowledge but Especially to influence the behavior of people and organizations through the exploitation of new knowledge and skills. In line with these considerations, Pardo and Nam (2011) underline the value of Smart Cities not only as a model of government geared to addressing pollution issues, congestion and scarcity of resources, but also as a tool to foster Greater social and territorial aggregation. In fact, an intelligent government approach aims, above all, to exploit and coordinate citizens enthusiasm and skills so to represent their interests more effectively and effectively. Awareness of the potential of adopting a smart city will thus lead to the emergence of socially creative innovations, which in turn can ensure an increase in citizen confidence and the development of Collaboration agreements between the various social actors involved.

Collaborative relationships within a Smart City allow you to overtake traditional partnerships between public sector organizations, leaving room for the spread of government models that can generate greater value than the sum of the individual parties involved in Development processes. The creation of this greater value is generated by the creative and profitable interaction between suppliers and users of services (Loia et al., 2016). Similar considerations show how the use of the ICT of the Smart cities is not sufficient for the birth and dissemination of Smart cities, but it is also necessary to activate as profitable as creative networks of stakeholder relations, in various ways, concerned with value-generation processes. In other words, technological platforms designed to ensure high-tech performance must be properly integrated into social platforms, thus enabling all concerned to become an active part of value creation mechanisms (Anttiroiko, 2012). This shift of perspective tends to give a different role to the technological and social platforms, increasingly called as facilitators for the activation of collaborative networks among social stakeholders (Wachhaus, 2011). Indeed, the participation of the various social actors is a necessary and sufficient condition to encourage the citizen-users' commitment to value-creation processes, so to change their individual and collective behaviour by directly acting on the social norms which they themselves recapture. These arguments are consistent with those proposed by the Dominant Logic Service, a search engine of Service Research, which promotes a real change of perspective that can reverse the comparison in terms of the prevalence of tangible and intangible assets in favour of the latter (Vargo et al., 2008). In fact, the Smart Cities model, predominantly based on the collaboration between actors involved in public service delivery processes, seems to be re-readable in light of SD logic propositions. SD logic propositions push for greater involvement of all social actors, not only as recipients of such services, but as protagonists able to play an active role in value creation processes, in terms of feedback and collaboration, their profitable contribution to the generation of a value greater than the sum of the individual parts.

The various social actors are encouraged to collaborate to co-create value, together and without prevalence of functions and roles, if they are guided by a common purpose, whether it is profit,

participation experience or recognition without financial rewards. Such collaboration, then, becomes effective with the support of advanced technological instruments (Tommasetti et al., 2015), as is the case in Smart Cities (Adler et al., 2011). The latter, as already mentioned above, represent a model of government comparable to a service eco-system in which people, technology and institutions are appropriately combined to generate a value that is then redistributed to all those who, Different measure and with different modes participated in its determination (Schaffers et al., 2011).

3. Research methodology

In order to re-read the Smart Cities in the light of value co-creation practices, a case study was carried out. The case study methodology, in fact, seems appropriate when trying to investigate the reasons that led to the birth and dissemination of a contemporary set of events on which the researcher has no control or, in any case, manages to exercise a very contained control (Johnson, 2008).

In that case, it was chosen to adopt an exploratory approach, based on the single case model (holistic) (Yin, 2013).

Case studies present numerous strengths represented by the depth of analysis, high conceptual validity, understanding of context and process, and finally the possibility of promoting new hypotheses and new research questions (Yin, 2013).

Punch (1998) describes this research technique as "an empirical research where data is not produced in the form of numbers". In fact, according to scholars oriented towards a qualitative approach (Denzin and Lincoln, 1994; Punch, 1998; Sekaran and Bougie, 2013), "a case study describes moments, meanings of routines and problems relating to the lives of individuals. It uses a wide range of interconnected methods, always hoping to get a better solution on the topic of interest "(Denzin and Lincoln, 1994, p. 2). On that track, Sekaran and Bougie (2013) highlight how a case study is able to highlight the meanings that individuals attribute to a subject within a natural environment. It is, in fact, a detailed analysis aimed at gathering information about an object, event, or specific activity.

In this work, in line with the aims pursued, namely, re-reading the Smart Cities in the light of value co-creation practices, we chose to consider the example of Turin, considered a city that, more than anything else, is focused on the Smart Cities model.

In this regard, the work focuses on the initiative promoted by the City of Turin together with the Torino Smart City Foundation, with which in February 2013 a strategic planning process lasting more than six

months led to the elaboration of the Master Plan SMILE (Acronym Smart Mobility, Inclusion, Life and Health, Energy).

The case study was conducted through the implementation of seven semi-structured interviews, given to local administrators and managers involved as decision makers in the SMILE Master Plan.

Interviews were conducted over a period of five months and lasted about two hours. In addition to primary research, secondary research has been carried out with regard to the relevant documents represented by the reports to which the SMILE Master Plan was made.

The comparisons with the local administrators in Turin and the managers involved in the initiative have been useful in collecting information and elements that can highlight the dynamism, effectiveness and potential of value-added practices.

4. Torino SMILE project

Discussing about the future of urban development in many countries have been gradually more influenced by discussions about smart cities (Hollands, Robert G, 2008). The Smart City concept embraces a lot of definitions like intelligent city, knowledge city , ubiquitous city , sustainable city , digital city , etc. (Cocchia, 2014). The core factors for a successful smart city consist in three main dimensions: technology, people, and institutions of smart city, like integration of infrastructures and technology-mediated services, social learning for strengthening human infrastructure, and governance for institutional improvement and citizen engagement (Nam, Taewoo, and Theresa A. Pardo. 2011).

In this direction, the Italian city Torino, picking up the challenge launched in 2011 by the European Committee with the initiative Smart Cities & Communities has run to become a smart city. The City intends to develop trials and processes directed to answer to the principal territorial problems in the followings scopes: energy, environment, mobility, accessibility, inclusion and integration, life&health. To this purpose, the city participated to European and national proclamations, useful to start research projects, technological development and innovation.

To manage the run toward "intelligent city", the City of Turin and the Foundation Turin Smart City started in February 2013 a process of strategic planning lasted more than six months that brought to the elaboration of the Master Plan SMILE (from the acronym of Smart Mobility, Inclusion, Life&Health, Energy).

The urban context is an ecosystem continually changing, in terms of the value propositions that are offered, the resources that are available, and the co-creation practices manifest (Frow, Pennie, Janet R. McColl-Kennedy, and Adrian Payne. 2016). Co-creation practices identification is important to determine the goals achievement level by the Torino city and each type of practice represents a attributes exacting grouping that determine a relevant outcome(s).

Every practices typology is grounded in relevant literature and reflects co-creation practices that are especially evident in the context of Smart City.

We identify nine value co-creation practices that represent a new approach for considering the process to become a Smart City. In the discussion that follows, we describe each of these practices.

4.1 Social capital practices

In the 1990s, the concept of social capital is defined as the norms and networks that enable people to act collectively. The evolution of social capital leads to the economic development through four distinct approaches (communitarian, networks, institutional, and synergy) (Capital, 2000). Furthermore, the organizations capabilities for creating and sharing knowledge is an organizational advantage (Nahapiet, Janine, and Sumantra Ghoshal, 1998). So organization social capital is a resource that reproduces the social relations character in the organization, and it is shaped through goal orientation level of collective members and shared conviction, that can create value and bring to success through collective action (Leana, Carrie R., and Harry J. Van Buren, 1999). In particular, co-creation practices can put up social capital through actors interactions, influencing their social situation and their degree of influence within the ecosystem (Blanchet, Karl, and Philip James, 2011).

At present in the urban context the city performance not depends only on a city's supplied of physical capital, like hard infrastructure, but also and ever more, on the human and social capital represented by the availability and quality of knowledge communication and social infrastructure. Understanding communication and social infrastructure are a very important aspect for urban competitiveness (Caragliu, Andrea, Chiara Del Bo, and Peter Nijkamp, 2011).

Considering the Torino SMILE project, it was develop a planning process that includes 55 people, of which 5 researches centers, 23 institutions, 10 associations, such persons, organized on work tables, coordinated by Torino Wireless in a 5 meetings cycle and in a span of 150 days, gave as the outcome the first Turin Smart City Master Plan. The sharing of different ideas and visions by different parties brings different benefits. Firstly, the parties have a different background and for this reason it is possible to analyze dissimilar points of view about the questions. Secondly, the cooperation and the collaboration among the various stakeholders helps to increase the trust between the parties. Lastly, the influences of different ecosystems can lead to the development of new projects. An important aspect it was the sharing of the final goal and the explanation the values and the principles to all the participants by the formation in the smart city management.

4.2 Educational practices

Other important role is covered by educational practices. “Education is usually the most important predictor of political and social engagement” report Helliwell and Putnam, in fact education, how the

communities learn and share knowledge can influence the success of a country, a region or a nation (Healy, Tom, and Sylvain Côté, 2001). Therefore, the educations externalities are also social benefits that derive from the education of each individuals that can benefit others people in the society now and in the current generations (McMahon, Walter W, 2004).

The educational practices require a shared language, symbols, signs and stories (Frow, Pennie, Janet R. McColl-Kennedy, and Adrian Payne. 2016). The shared language confirm the social capital that influences the individual's knowledge sharing in the communities (Chiu, Chao-Min, Meng-Hsiang Hsu, and Eric TG Wang. 2006). The signs are part of everyday life, and well-designed and planned thoughtful signs communicate ever since with simplicity and directivity. While a symbol is the basis of a sign and has the goal of transmitting an idea that cannot be fully expressed by words (Ballinger, Louise Bowen, and Raymond A. Ballinger. 1972). Also the stories are fundamental to the type of reflection that lead to professional development and personal understanding (Jalongo, Mary Renck, Joan P. Isenberg, and Gloria Gerbracht. 1995).

Practices that have a common language, symbols, signs, and stories can affect the actors mental model, impacting their interactions with others and their performance of activities. The influence of mental models shared on teams was tested and the results demonstrated the team efficiency by performing interventions designed to achieve this convergence of mental models (Mathieu, John E., et al. 2000).

The presence of a class educated about the attention to the urban environment are positively correlated with urban wealth. It is important a new formulation of a new strategic program for cities that will allow them to achieve sustainable urban development and a better urban scenery (Caragliu, Andrea, Chiara Del Bo, and Peter Nijkamp. 2011).

In the SMILE project, educational practices envelop a significant role. In fact, actions of every individual, from citizens to experts, are guided through the Master Plan points, that define the methodology, best practices and the main actions that every single user have to perform to align with the general objective to make the city smart.

The 750 pages document collects and presents City's assets, national and international best practices, 45 project ideas on vertical issues (mobility, social inclusion, lifestyles and prevention, energy and integration), governance and sustainability models of the Smart City. In this document, it is used a shared language, symbol and signs that guarantees a shared actors mental model. With the SMILE project, Turin is one of the first Italian cities to come up with strategic development lines that are down to the definition of a large number of project ideas, timely and shared with a broad spectrum of stakeholders interested in designing and implementing Turin's future. Each design idea is accompanied by a card that identifies the places where the activity will be prioritized, all actors involved, how it is implemented, the expected benefits and links with existing initiatives.

4.3 Institutional practices

Institutional practices spring from empirically grounded forces and influence several social aspect (Snyder, Francis. 1994). In the smart city context, an important dimension is about the institutions, in particular the governance for institutional improvement and citizen engagement (Nam, Taewoo, and Theresa A. Pardo. 2011).

In particular, the cohesion policy in 2009 introduced the territorial dimension as a required completion to achieve economic objectives and social cohesion. The European Commission center on cities and urban areas that effectively come under European Union competence, thanks to both the Treaty on the Functioning of the EU (2008) and the Treaty of Lisbon (2009). The proposals enclosed the package of regulations of the Cohesion Policy 2014-2020 connected on the field of urban development are mostly oriented to support integrated policies for sustainable development. The main suggestions made to this end principally concern the adoption of integrated investment strategies oriented to a more global approach (Gargiulo, Carmela, Valentina Pinto, and Floriana Zucaro. 2013).

In particular, the City of Turin raised the challenge launched by the European Commission in 2011 with the Smart Cities & Communities initiative to become a "smart city". In addition to define appropriate stimulus and support measures under the Europe 2020 Strategy and the next financial period 2014-2020, the City intends to develop processes and pathways to address key territorial problems in the following areas: energy, environment, mobility, accessibility , Inclusion and social cohesion, lifestyles. So, the European Commission therefore establishes projects and provides shared rules for actors who have to carry out certain activities in order to achieve the common objective established.

4.4 Resources management and value creation practices

The correct resources management is fundamental to guarantee the survivability of all systems. In fact, when the service systems interact through relationships that allow the mutual service exchange, it is also possible the integration of resources that is a mutual benefit for every actors interacting in the system (Vargo, Stephen L., Paul P. Maglio, and Melissa Archpru Akaka. 2008). The actors involved produce a dialog and transfer other resources for resource creation and renewal with the purpose to co-create value (Gummesson, Evert, and Cristina Mele 2010).

Therefore, necessary management practices give resources needed and the operational methods. These practices have the purpose to organize the resources integrated through practices alignment action (Skålén, Per, et al. 2015). The actors share own resources to obtain also new resources from the others actors, so the resources management practices are also co-creation practices (Frow, Pennie, Janet R. McColl-Kennedy, and Adrian Payne. 2016).

In the Smart City context, the actors and the entities have to be involved in the initiatives and share resources to define the market and customer needs (Bowerman, B., et al. 2000).

In the activities launched by the Masterplan of SMILE project, there are in particular nine activities under the name of "integration", which aim to integrate resources through better communication, appropriate infrastructures and adequate data management. This activities concern digitalization project and social participation plans. Through bigger sharing of resources, new and existing value propositions are proposed with greater intensity.

4.5 Co-destruction practices

Previous studies demonstrate that the interactions do not always create value, but sometimes interactive value formation is associated with value co-destruction (Echeverri, Per, and Per Skålén. 2011). The process of value co-destruction derived from the misuse of actors resources (M. Smith, Anne. 2013). There is the possibility to avoid the potentially destructive collaborations, identifying the interactive process connected with these negative results of co-creation practices (Jaworski & Kohli, 2006), or choosing the collaborations and interactions that bring less risk (Etgar, 2006).

Therefore, the value offers a are determined individually, this implies that the same offer can result in different levels of value for different actors (Vargo & Lusch, 2016), so a value offer may be relevant to one actor, but at the same time damaging others. This effect is the co-destruction of value and it does not only refer to turn down in the value, but also to negative variation from the high expectations regarding some services delivery (Stieler, Weismann & Germelmann, 2014).

In addition, in the context of Smart Cities, there are some interactions that bring a co-destruction of value. In SMILE management there is also a resources investment in project proposals that will not receive approval. In fact, Turin city gave its endorsement to 18 research projects presented at the call MIUR 2012 Smart Cities and Social Innovation, of these 12 projects entered in to the short list and only six received funding. Also when there are collaborations with negative results of co-creation practices, in any case occur new collaborations that in future can lead to positive results of practices.

4.6 Regulation practices

The limitations of institutional theory can be corrected by incorporating a practice-based approach to markets. A practice in fact places of interest the markets performativity, in which theories about markets are formed (Kjellberg and Helgesson, 2006). Empirical studies elaborated normalizing practices, representational practices and exchange practices. The normalizing practice is the process of establishing guidelines, norms and rules of how markets should work in accord to certain actors implicated in the process. This includes agreed contracts on what can be offered in the market, who can participate in the market, how exchange takes place, as well as the responsibilities that an actor has to other actor. Therefore, the purpose of this practice is establish normative objectives. Representational practice is the practice of depicting markets and its workings through statistics, figures, and index. Represent the market is

a way to have a more manageable and understandable form. While, exchange practice relates to the individual economic exchanges, such as presenting a product, setting a price, and terms of payment and delivery. These activities stabilize the conditions necessary for economic exchange to take place. These practices are parts of a model used to illustrate differences in how markets are being continuously realized (Kjellberg, Hans, and Claes-Fredrik Helgesson. 2007).

Also the smart cities context are composed to a actors that interact in every level shaping and operating the innovation ecosystem (Filipponi, Luca, et al. 2010), so it is very important define regulation practices between these interactions.

To normalize the exchange between the actors it is necessary to start a normalization through guidelines and rules.

For this reason, European and national calls are defined, useful in launching research projects, technological and innovation development connected to the "intelligent city" themes. This calls normalize the relations between European commission and city, how exchanges take place and the respective responsibilities. At the European level, Turin collaborated with various candidate projects within the CIP (Competitiveness and Innovation Program), VII Framework Program, Interreg and Urbact II CIP programs, covering strategic issues for Smart City such as mobility, Energy, environment, innovation procurement, and social innovation.

It is also significant to represent the interaction between smart cities actors and the results. The SMART INDEX summarizes the cities results in the process to become a smart city. In 2014, Turin SMART INDEX went from fifth to 2nd place in the rankings of Italian cities. The ranking is the result of a careful territorial monitoring which for 10 years analyses the level of technological innovation (from broadband to digital services) of our cities. The SMART CITY INDEX is developing following the evolution of innovations. Three new thematic areas (Smart Culture and Travel, Smart Urban Security and Smart Justice) and 6 new sub-areas (WiFi, alternative energies, smart grids, digital justice, urban security and digital security) were added to the analysis.

Lastly, about individual exchanges, the masterplan of Turin- anyway in tune with the new Horizon 2020 program that will reward the territories that have a strategic integration of sustainable development - continued the Turin Smart City project, enriching it, extending it and expanding it. Today, Masterplan is therefore the operational reference point for the organization of Smart City activities and projects, either on own funds or on ministerial funds, or through European funds or private initiatives.

4.7 Performance practices

Empirical research has demonstrated that actor satisfaction in a market exchange is a function of expectations related to certain important attributes and judgements of attribute performance, so the importance of performance analysis has been found to be a useful technique for evaluating marketing

elements (Martilla, John A., and John C. James. 1977). Following these considerations, are interesting enterprise performance models, which integrate the components of value (Payne, Adrian, Sue Holt, and Pennie Frow. 2001). The practices that they deal about performance can be called “provision practices” that make sure the value proposition is fulfilled. In provision, practices there are “operating practices” that integrate resources in order to sustain the customer value creation. There are in particular “Problem-finding practices” that identify problems with the customer’s value creation and the customer’s need for new forms of creating value, and “Problem-solving practices” that help to solve customer problems (Skålén, Per, et al. 2015).

The modern city has the purpose to become dynamic, attractive city, creating sustainable wealth. Through engineering activities, the city will be the centre of activities designed to facilitate exchanges and to provide high-performance services to businesses and citizens, while pooling infrastructure costs. Performance services is increasingly important, and it is necessary to monitor the performance level of smart city value propositions. The city authorities intend to establish a reference model for measuring cities’ performance in environmental, economic and social terms, in order to create an international Smart City standard serving city residents (Hall, Peter. Cities of tomorrow. Blackwell Publishers, 1988).

For Turin city there was a continuous monitoring of the activities performance. In 2014, there was a alignment review of the 45 smile ideas with European collaborative calls, the assessment of the metropolitan potential of ideas and projects and PON presentation to finance mature SMILE ideas. In according to the performance level the city won the SMART CITY 2014 prize. The award is promoted by SMAU and ANCI and is awarded for the implementation of the SMILE masterplan defined as "innovative project, virtuous example of the development of modern intelligent cities".

4.8 Innovational practices

Understanding and adapting to innovation is essential, also because the technology is growing fast. The actors must accept the inevitability of change by valuing innovation even above past success and is important to define a management approach that find a balance between traditional activites and innovations (Utterback, James, 1994). Innovation is an outcome of an interaction between technological opportunities and user needs. The focal point is about the interaction between producers and users of innovation (Lundvall, Bengt-Åke. 2016).

The purpose is to increase the value co-creation and value of research also through collaboration between education institutes and industry (Golooba, Moses, and Abd Rahman Ahlan. 2013). Other important aspect is recovered by the participatory design and creative practices to co-create knowledge (Langley, Joe. 2015). In fact, the co-operation practices and the use of internal and external information sources influence the propensity to introduce innovations to the market in the service sector. Also the analysis of the parameters shows that actors provided with information from market sources and from internal sources as well as

firms involved in science-based collaboration for their product innovations are more likely to introduce new to the market innovations. Whereas information coming from competitors seems to have a negative influence on the degree of novelty of innovation (Mention, Anne-Laure.2011). Innovative actors have to learn new skills and routines to develop the full 'real option' potential of open innovation practices (Vanhaverbeke, Wim, Vareska Van de Vrande, and Henry Chesbrough. 2008).

Smart city represent an urban innovation. The connotation of a smart city represents city innovation in management and policy as well as technology. Therefore, a smart city can be considered a contextualized interplay among technological innovation, managerial and organizational innovation, and policy innovation (Nam, Taewoo, and Theresa A. Pardo. 2011).

Turin city provides the adoption of "Public Procurement of Innovation" practices in the City's high-potential innovation areas linked to the Smart City Strategy. This practices provide: capacity building actions directed at internal staff, including specialist training; support in the conduct of demand analysis and comparison with the pre-race market; predisposition of procedures and standard models; participation in national and European working groups; experimentation of procedures, including through participation in European projects. The benefits that the city could use concern: best manage urban areas, most support for innovation and market competitiveness, greater qualification of public demand through strategic procurement planning and greater professionalisation of procurement stations.

5. Conclusions, implications and future researches

In this paper, the concept of "smart cities" is explored as open and user driven innovation environments, which can be considered as a government model suitable for dealing with environmental dynamism and turbulence. A major role within the Smart Cities is played by new information and communication technologies, which help to reduce distances between the various social actors, placing them as the key determinants of city welfare. Other important elements for the well-being of cities are infrastructures aimed at ensuring the spread of education and innovation, networks between businesses and governments, the existence of citizens and enterprises capable of supporting innovation and Quality of services. However, work, in the debate about intelligent cities, has highlighted how to effectively manage them, not only to focus on the use of new information and communication technologies, but above all to increase the level of interaction and collaboration among the various social actors involved in value generation processes (Anttiroiko et al., 2014).

In this regard, the study highlighted the value co-creation practices proposed by various scholars within service research (Gilly & Torre, 2000; Gittell & Vidal, 1998; Duysters & Lemmens, 2003; Akaka et al., 2014 Storbacka & Nenonen, 2011) play a decisive stimulus role for the activation of consolidated and lasting relations between social stakeholders.

In line with these considerations, Blanchet & James (2012) emphasize the role of co-creation practices as factors influencing the social position and the degree of influence of social actors within a given context. In fact, the benefits of relationships between social actors have a personal relevance, but they also affect the broader network of relationships each actor is able to build (Tommasetti et al., 2014). It is no coincidence that benefits such as trust and co-operation, which are relevant to the individual in the immediate future, can also have wider implications for the whole context in which the latter is operating (Fukuyama, 1995). On that trail, Gittell & Vidal (1998) Putnam (2000) and Szreter & Woolcock (2004) emphasize how co-creation practices are particularly relevant for managing relationships between social actors, representing a possible viatic towards creating a Global value to be distributed to all those who took part in his generation. In fact, the efforts made in co-creation practices exert some influence on the relationships between social actors and the organizational structure of the context considered (Schau, Muniz, & Arnould, 2009).

Consistent with the considerations so far formulated, DeVries et al (2007) show how value co-creation practices are an effective tool for improving the results pursued in different areas of administrative life.

In fact, scholars underline that an adequate combination of activities carried out by administrators, citizens-users, technology and other players in social life leads to improved performance.

Also Ballantyne, Frow, Varey & Payne (2011) emphasize the role of value-sharing practices, pointing out the importance of dialogue and the development of appropriate interactions between social actors in obtaining effective propositions of value. The latter are potentially able to attract a large number of social actors, making it necessary, through suitable co-creation practices, to be more effective in allocating resources. The work, therefore, in the light of the considerations so far formulated, highlights the importance of value-added practices as tools to facilitate the involvement of a number of social actors, who are differently interested in contributing to the definition of processes of value generation (Ciasullo & Troisi, 2015). However, it has the limit to be based on a single case study relating to the city of Turin and not to other cities. In fact, this eventuality would have allowed us to make appropriate comparisons, highlighting similarities and differences that could guarantee a more reliable generalization of the results. Therefore, future research could destine efforts to build works based on multiple study cases in order to expand the observation object.

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