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TOWARDS URBAN SMARTNESS: CONTRIBUTIONS FROM MARKETING PLACES, GOVERNANCE, AND DEVELOPMENT

Donizete Ferreira Beck, donizetebeck@hotmail.com, Nove de Julho University

Abstract

The phenomenon of Smart Cities (SC) has arisen within the context of urbanization, globalization and digital revolution. The purpose of this paper is to find the main constructs which could explain urban smartness and to reveal what is the shape of urban smartness could be assumed to. Considering the conceptual nature of our aim, we chose a qualitative and exploratory approach, in which we created propositions through a narrative review of publications on SC and the interconnection with other theories of social applied sciences, such as innovation, marketing and public administration. This paper proposed a framework with a set of propositions, which indicates that the urban smartness depends upon the interrelation of the constructs of urban innovativeness, smart governance, and smart development. Also, this paper proposed a definition of “urban product” and “urban process”, which are relevant to the construct of urban innovativeness.

Keywords: Smart Cities, Urban and Place Marketing, Innovation, Governance, Development.

1. Introduction

Urbanization, globalization and digital revolution are social phenomena which has shaped the daily life of everyone. More people are living within cities, the time of displacement and travelling has become even more shorter, and the omnipresence and massive use of Informational and Communicational Technologies (ICT) have shifted the way that humanity works, lives and behaves. Furthermore, Smart Cities have arisen within this context, and are also a new phenomenon which appears among those latter mentioned.

As Smart Cities are a new phenomenon, studies which explore and investigate them are not only incipient, but are also divergent: some scholars have called them as Smart Sustainable Cities, Intelligent Cities, Digital Cities, and so further; while others researchers do not agree that those cities emphasize sustainability and only do it with ICT (BIBRI; KROGSTIE, 2017). However, all of them converge that Smart Cities utilize ICT with intelligent functions to make the quotidian of the citizens easier, and turn urban systems and services more efficient and usable, e.g. mobility system, livability, among other solutions (BIBRI; KROGSTIE, 2017; MORA; DEAKIN, 2019; and others).

Although scholars have given attention to the phenomenon of the Smart Cities, there is a gap in studies which explore what makes cities smarter, that is, the urban smartness of these cities. In fact, the vast majority of them have been working on the definition and characteristics of smart cities, there is a lack of knowledge on what is behind the Smart Cities which explains such smartness. So, our purpose is to find the main constructs which could explain urban smartness, even more, our intent is not to investigate it deeper, but to reveal what is the shape of urban smartness could be assumed to.



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Considering the conceptual nature of our aim, we chose a qualitative and exploratory approach, in which we created propositions through a narrative review of publications on Smart Cities and the interconnection with other theories of social applied sciences, as those related to innovation, marketing and public administration. In the literature, there are three main topics which could explain urban smartness: the first is related to innovation and marketing places; the second is related to governance; and the third is related to development.

Thus, in the first topic, we explored the existing literature on smart cities to make a possible connection with theories of innovation and marketing places, e.g. the definition of innovation, product (and urban product), process (and urban process), collaboration, co-creation, quintuple helix, ecosystem of innovation, and then we proposed a definition for the construct of - urban innovativeness. In the second topic, we explored and linked smart cities with governance through theories of public administration and innovation again, e.g. co-creation, collaboration, quintuple helix, principle of transparency, principle of accountability, ecosystem of innovation, e-government, and then, we proposed a definition for the construct of - smart governance. In the third topic, we explored and linked smart cities with theories of development and the concept of urban development used by the World Bank and Europe Union, e.g. the construct of development, the concept of urban development, and the challenges of Smart Cities which could be overcome.

The main finding of this paper is that urban smartness depends upon the interrelation of the three constructs explored and proposed which are urban innovativeness, smart governance, and smart development. Other relevant findings are new concepts of “urban product” and “urban process” provided. Our originality lies in providing a new theory of urban smartness composed by those three constructs mentioned which were created taking into account the interconnection of the literature on Smart Cities with other theories of social applied sciences, as those related to innovation, marketing and public administration. Also, we exposed our limitations and explained the theoretical, practical and social implications of this study.

2. Urban Innovativeness: Inside the social and urban transformation with marketing places

Innovation is, according to the Oslo Manual 2018, “a new or improved product or process (or combination thereof) that differs significantly from the unit’s previous products or processes and that has been made available to potential users (product) or brought into use by the unit (process)” (OECD, 2018, p. 20). In other words, innovation is understood as the creation of a new setting of how things are done or made to a public and market segmentation or as a critical part within a process. Even more, innovation has been strictly related to marketing literature, as well as its constructs of product and process, in which the organizations strengthen their ties with their community and creates value for their target audience, that is, those organizations are customer-focused, engaging and managing relationships with their customers (KOTLER; ARMSTRONG, 2018).

Kotler, Haider and Rein (1993) brought the theme of marketing to urban management and planning, however much of the content written in the classic book known as “Marketing Places” is outdated. For instance, Internet of Things (IoT), Smart Cities, and Sustainable Cities



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are terms not mentioned in that publication. Meanwhile, Kotler *et al.* (1993) provided the levels of place marketing, which urban managers should consider: (1) the target markets (e.g. exporters, investors, manufacturers, corporate headquarters, new residents, tourists, and conventioners); (2) the marketing factors (e.g. infrastructure, people, image and quality of life, and attractions); (3) the planning group diagnosing, envisioning, and acting on a urban marketing plan, which is composed by the relationship among citizens, local/regional government, and the business community.

In this way, in order to refresh the urban marketing to the current digital context shedding light to the Smart Cities and how urban planners, practitioners, and academia could be benefited, the following paragraphs of this topic interrelate some constructs of urban marketing and innovation, and then, opening new avenues for urban studies.

Product is something which acknowledges and meets the needs and/or aspirations of a client or a market segmentation through their contemplation, acquisition, consumption or exploitation (KOTLER; ARMSTRONG, 2018), such as tangible objects, services, events, people, places, organizations, ideas or all of these combined. Also, products could be goods or services, and their innovation is basically their significant novelty or improvement within a segment (OECD, 2018).

Although the literature incipency on what is “urban product”, some research has classified it as an inflexible and durable product (VAN DE BERG; BRAUN, 1999) and has demonstrated that stakeholders’ perception on urban place are important measures to urban managers categorize the importance of selecting and prioritizing characteristics which are most valued by those stakeholders, that is, the place formation is optimized, legitimized and responsive (TELLER *et al.*, 2010). Some examples of “urban product” provided by the literature are: “office space, harbour facilities, an industrial estate or a shopping centre, but it could also be a museum, an arts festival or a sports event” (VAN DE BERG; BRAUN, 1999, p. 994).

So, urban products could be urban facilities which provide services and consumption, the logistic system, urban mobility, public services and all of the facilities which could be used for contemplation, acquired, consumed, or exploited. The inflexibility and high duration of the urban products could be outdated, because the pattern of urbanization and the emergence of smart cities with their ICT apparatus, those characteristics probably have changed over time, and further research should explore this issue. Taken into account this brief discussion on urban product and that there are few relevant studies on it, we proposed the following definition on urban product:

Proposition 1a: Urban product is something (e.g. goods, facilities or services) which acknowledges and meets the needs and/or aspirations of the citizens and urban stakeholders through their contemplation, acquisition, consumption or exploitation, and then builds value for those citizens and urban stakeholders.

Processes create and capture the value desired by the customer (KOTLER; ARMSTRONG, 2018) and are related to the functions within and used by organizations (OECD, 2018), that is, processes are a set of events and/or actions which implies or affects the organizational in order to create value for a public audience. The literature has shown that the



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politics and power, the real estate, the urban structure and infrastructure, the build environment, and the urban design are factors which shape the urban processes (AMBROSE, 1994; GARCIA; CANTALONE, 2002; MADANIPOUR, 1996; MILES *et al.*, 2015). So, considering those factors which shape urban processes and the concept of processes, we defined urban processes as:

Proposition 1b: Urban processes are a set of events and/or actions which implies or affects the urban development, those events or actions are related to the power, to the dominant ideology, to the builded environment, to the urban structure and infrastructure, to the urban wealth, to the real estate, and to the urban design.

In smart cities, the citizens' engagement, collaboration, and co-creation are crucial to the innovation management within the urban context, as well as its socioeconomic and innovative ecosystem. The literature has emphasized the role of the citizen as co-creators of smart applications in which develop new ways of collaboration among the actors of the innovation ecosystem which is composed by the quintuple helixes i.e. academia, industry, government, civil society and environment (CARAYANNIS; CAMPBELL, 2009; CARAYANNIS *et al.*, 2018; KOMNINOS *et al.*, 2013) which is shifting cities based on a knowledge-based economy (LEYDESDORFF, 2012), and even more, this innovative environment has technological, institutional and human components which are the cornerstone of the smart cities (NAM; PARDO, 2011). This "smart growth" creates new models of business, labs, and networks based on trustiness, and is the top-layer of the urban smartness (ZYGIARIS, 2013), furthermore, there are three main areas of the innovation economy within smart cities: first, clusters of manufacturing industries, business, services, health and tourism; second, smart urban districts, e.g. business inner districts of cities, science parks, commercial buildings and districts, *campi* of universities, port and airport areas, and so on; and third, the creation of new labs and incubators (SCHAFFERS *et al.*, 2011). So, based on this discussion, we defined urban innovativeness and its function as:

Proposition 1c: The urban innovativeness plays a critical role on urban smartness, and is associated with the marketing places, and could be understood as the creation of new urban products or processes which stemmed from the citizens' engagement and/or collaboration among the actors of the quintuple helix, whether using Informational and Communication Technologies or the mere human creativity to enhance better urban products, services and processes.

In short, constructs from the literature of marketing and innovation could be used in cities to make them smarter, more innovative, and then creating value for citizens and all sorts of urban stakeholders. In other words, urban innovativeness utilizes theories of marketing places and innovation to make the city an object which could be exploited by urban stakeholders and even the government, causing social and urban transformations.

2. Smart Governance: The intersection among public administration, technology, and actors' engagement

Governance is "the interactive processes through which society and the economy are steered towards collectively negotiated objectives" (ANSELL; TORFING, 2016, p. 4). Urban governance has been challenged by globalization in which increases competitiveness among



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cities and regions and has influenced on how policy-making will be done and chosen by public managers in order to manage collective interests and conflicts (PIERRE, 2016).

The literature on smart cities has highlighted the role of applying constructs of innovations, sustainability and strategic management into public administration. The engagement of the urban actors is a requisite to the urban innovation whether for technology or institutional factors (KOMNINOS *et al.*, 2013; NAM; PARDO, 2011) and is a criterion to the strategic management within cities, that is, the social engagement could be exploited as a criterion by public managers in the decision-making process (SCHAFFERS *et al.*, 2011; AHVENNIEMI *et al.*, 2017). Smart cities have a governance which not only generates public value on urban attractiveness, innovation and engagement, but also a long-term strategy, assets management (e.g. resources and knowledge), and economic sustainability in the medium-term (CASTELNOVO *et al.*, 2016). Some challenges on the governance of smart cities are linking social issues with technical apparatus, shifting the governmental structure to a smarter paradigm which uses more technologies and data management, and having a legitimized governance which makes a sustainable and engaged approach be mandatory (MEIJER; BOLÍVAR, 2016). In this way, we proposed that:

Proposition 2a: Smart governance could be partially resulted from constructs of innovation, sustainability and strategy applied to the Public Administration, as for policy-making and policy-development.

In smart cities, the ICT are means used by citizens and actors of the innovative urban ecosystem to make their lives easier and even more efficient, and then enabling urban governance to achieve its goals. So, ICT is a factor which allied with engagement could make cities smarter (KOMNINOS *et al.*, 2013; NAM; PARDO, 2011) and could provide accurate and better data for decision-making (SCHAFFERS *et al.*, 2011; AHVENNIEMI *et al.*, 2017). Smart governance should match public administration with society on integrating governmental communication with citizens through ICT at applying the principles of transparency and accountability (CHOURABI *et al.*, 2012), and shifting socioeconomic and institutional paradigms on how to communicate with urban actors (FERRO *et al.*, 2013), e.g. e-government is a model of governance based on the community which provides public services by digital means and its successful implementation requires engagement among the actors (CHOURABI *et al.*, 2012; COE *et al.*, 2001). Also, ICT has been used to provide information and better experience from users e.g. mobility, digital economy, e-participation, traffic jam management, housing, among others (BOLÍVAR; MUÑOZ, 2020; LOPES, 2020). Then, we proposed that:

Proposition 2b: Smart governance could be partially resulted from the use of Information and Communication Technologies in order to make the daily life of the citizens easier and better, as deploying a structure related to the e-government, better data management, and also making transparency and accountability as core assumptions of urban governance.

In addition, the engagement and the collaboration among urban actors on the decision-making process are decisive factors in smart cities. Research has shown that: collaboration enables the creation of innovative networks of governance which guide innovative decision-making processes (AHVENNIEMI *et al.*, 2017; MEIJER; BOLÍVAR, 2016); social engagement



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should be mandatory to make cities smarter (MEIJER; BOLÍVAR, 2016); social engagement and open collaboration not only improve urban governance processes as well as increase indicators of sustainability, health and urban wealth within cities, that is, the results of this governance have a better performance (MEIJER; BOLÍVAR, 2016); and the cultural and environmental systems of cities could be better developed by the interaction among those actors of the quintuple helixes (CARAYANNIS; CAMPBELL, 2009; CARAYANNIS *et al.*, 2018; DEAKIN, 2014; LEYDESDORFF; DEAKIN, 2011). So, we proposed that:

Proposition 2c: Smart governance could be partially resulted from the engagement of the actors of the urban, innovative and smart ecosystem composed by academia, industry, government, civil society and environment within the decision-making processes.

Considering that a governance could be influenced by a high variety of factors and the discussion above on smart governance which highlighted the main characteristics of governance in smart cities, we presume that the combination of the three previous propositions could be a better explanation of what actually makes a smart governance. Thus, we proposed that:

Proposition 2d: Smart governance could be strongly resulted from the sum of an innovative, sustainable, and strategic Public Administration, the use of Informational and Communicational Technologies to deploy e-government and apply the principles of transparency and accountability, and also from the engagement of the actors of this ecosystem within the decision-making process.

In sum, there are three main points which is connected in a governance of smart cities: first, the use of constructs related to sustainability, innovation and strategic management by public administration; second, the use of ICT as a tool for communication among urban actors, as the promotion of e-government and values related to transparency and accountability; and third, the importance of the actors' engagement on decision-making processes.

2. Smart Development: The power of policies inducing new urban paradigms

According to Todaro and Smith (2015), development was traditionally a synonymous of economic development, in which income per capita, gross national income (GNI) and the gross domestic product (GDP) were the main measures which could explain the success of economic development and growth. However, social issues such as poverty, unemployment, and unequal income distribution become new challenges which economists and policy-makers would like to overcome, even when the countries achieve a desirable rate of their economic indicators.

However, all of these assumptions still not enough, Amartya Sen (2000) developed a capability approach which argues that development could not only being measured by income and others socioeconomic indicators, but the well-being of humans on the functionality of what a person could be and do, and then be happy, that is, the capabilities of humans at exploiting a valuable function which is more than mere consumption could explain development more accurately. Also, Sen (2000) described five characteristics of development which are - personal heterogeneities, environmental diversities, social-climate diversities (e.g. criminality rate and social capital availability), income distribution among persons within the family, and differences in relational perspectives (i.e. influence of customs on what constitutes social status).



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In addition, Todaro and Smith (2015, p. 22-23) improved those conceptions on development proposed some core values of the development which are - the sustenance, self-esteem, and freedom - the first one is the “ability to meet basic needs”, self-esteem is when someone considers him or herself as a person, and the last one is the ability “to choose”. Furthermore, the three objectives of the development are: first, “to increase the availability and widen the distribution of basic life-sustaining goods”; second, “to raise levels of living”; and third, “to expand the range of economic and social choices” (TODARO; SMITH, p. 24). However, what about development within the urban context?

In cities, urban development has been primarily explored by international organizations as the World Bank Group which has emphasized that “city leaders must move quickly to plan for growth and provide the basic services, infrastructure, and affordable housing their expanding populations need” (WORLD BANK, 2020a), and the Europe Union (2020) asserts that “urban development covers infrastructure for education, health, justice, solid waste, markets, street pavements and cultural heritage protection”, so, policy-makers usually takes it within “specific sector programmes” and building “measures” to manage it. Even more, slums, conflicts and natural disasters could be priority on the “rehabilitation and reconstruction” of the urban infrastructure needed to deal with.

In other words, urban development should respond and meet the needs of their citizens facing the existent local and global challenges as well as building the infrastructure required to, e.g. the coronavirus pandemics (also known as COVID-19) has affected the majority of cities around the world, and organizations as World Bank (2020b) has highlighted the importance of quick responses to this outbreak whether using smart technologies or not, in the case of first data management and geospatial solutions have been widely used to respond to this challenge.

The literature on smart cities has shown that ICT plays a critical role on urban development, e.g. managing data and using ICT devices at a vast urban agenda which includes topics from safety, security, health, and mobility to more advanced ones (BIBRI; KROGSTIE, 2017; BIBRI, 2018, among others). Mora and Deakin (2019) revealed that the way to go toward a smarter urban development has some challenges regarding to performance indicators and metrics to be used, socioeconomic and cultural barriers to be overcome, on how to use ICT to resilience, inclusiveness and safety, on how to design and implement strategies, on how to manage and protect the privacy of the citizens, how to engage more citizens, and on how to manage and foster urban innovations. So, considering the concept of development, urban development and the importance of addressing those concepts with our emergent reality of cities becoming smarter, we proposed that:

Proposition 3: Smart development of smart cities uses policies and Informational and Communicational Technologies to assure that sustenance, self-esteem, and freedom of the people be guaranteed as well as building the infrastructure required to face existing local and global challenges.

In brief, urban smart development synthesizes what has been worked on the literature on development and urban studies, and includes the role of ICT to deal with challenges related to the urban agenda.



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3. Conclusion

Taking into account all of the latter propositions for the first and second topic of this paper, that is, the proposition 1c, 2d and the unique of the third one, the proposition 3, we have the main elements in which were discussed and explored in our work. The proposition 1c binds both 1a and 1b to only one which demonstrates how innovation and urban branding could contribute to urban smartness. Regarding the proposition 2d is a combination of 2a, 2b and 2c and proposes a novel approach for urban smart governance. And proposition 3 is a revolutionary topic for smart cities which proposes a clarification of the debate on their urban development. Thus, we provide a summary of these three constructs which embodies a new theory of the urban smartness:

Proposition 4: Urban smartness is the interconnection and the mutual relation among urban innovativeness, smart governance and smart development, in which innovation, marketing place, the actors from quintuple helix, transparency and accountability as principles of governance, Informational and Communicational Technologies, and urban development are the main characteristics which all together makes cities smarter.

The Purpose of this paper was achieved at exploring and making some propositions on three constructs which explain the boundaries which shape the urban smartness. Our main finding is the fourth proposition, in which we summarized the three constructs presented in the earlier other propositions, that is, what actually means urban smartness. So, the urban smartness depends upon the interrelation of the constructs of urban innovativeness, smart governance, and smart development. Even more, we defined “urban product” and “urban process” which are relevant to the construct of urban innovativeness.

Also, regarding the three constructs proposed, we found that: first, urban innovativeness is made from constructs of marketing places and management of innovation in order to make cities smarter through turning them more innovative and oriented to value-creation for all of their stakeholders, and then transforming society and governments; second, smart governance is composed by a Public Administration set by sustainability, innovation, strategic management, ubiquitous use of ICT as a tool for communication among urban actors, e-government, and values anchored in transparency and accountability, and the high involvement of the actors on decision-making process; and third, an urban smart development binds the literature on development, urban studies and smart cities, in which ICT become a mean to be used to overcome issues and challenges related to the urban agenda.

Considering the qualitative nature and exploratory approach of this conceptual research, our limitations are based on the non-reproducibility of the method applied here (as opposed to qualitative research made on systematic-literature review or those on quantitative methods) and the possibility of some biased view from the researcher, we have made several efforts to avoid misconceptions stemmed from subjectivism although.

Our research has originality in providing constructs (i.e. urban innovativeness, smart governance, and smart development) which constitute a new theory for urban smartness in order to better explain the lines which shape the phenomena of smart cities. As earlier mentioned, those constructs were made with a coherent and possible combination and exploration of those we



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find in seminal literature on smart cities, marketing places, innovation, public administration and development.

So, we appoint some of the several theoretical implications of this research: first, further research could be explore better what is “urban product” of the construct of urban innovativeness in order to update and define what are the characteristics of the urban product in any type of city, e.g. smart cities; second, further studies could explore if urban product does still inflexible and durable in the current digital society, even more, scholars could specify what are the types of urban products which remain or not with these characteristics; third, the possibility of linkage between the propositions 1b and 3 in order to explore how urban processes affect or are within urban development; fourth, in the proposition 1c we proposed that the actors of quintuple helix play a critical role on the urban innovativeness, and the environment is considered an important influence, further research could explore the connection between the environment of the quintuple helix with Actor-Network Theory (e.g. the constructs of human and non-human actors) in order to go beyond on urban innovativeness; fifth, there is space to future studies test this theory and our three proposed constructs at creating some measures and proxies which could quantitatively explain the degree of the urban smartness within cities (or those considered smart cities); and sixth, future studies could approximate theories of business strategy and political science and adapt them to the context of smart governance in order to explore issues related to value creation and societal recognition, e.g. stakeholder, legitimacy and institutional theory.

Furthermore, our study provides several practical implications for public managers, some of them are: first, taking into account the construct of urban innovativeness, public managers could be benefited from a better relationship with all of the actors of the quintuple helix, and hence managing all the ecosystem of innovation to be more innovative, e.g. the renewal of urban products and urban processes; and second, better relationship among urban actors and efficiency within the Public Administration could be more easily achieved if public managers assume those characteristics proposed on smart governance.

Also, the social implications of our work lie whether in the improvement of the urban products and urban process within cities or a better relationship among urban actors and efficiency resulting from a smart governance, or even the resolution of urban issues and challenges (e.g. coronavirus pandemics) which cities face considering a smart development as proposed here.

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