Erasmus University Rotterdam

How do London and Milan frame their smart and sustainable agenda?

A congruence analysis on New Public Management and Post-New Public Management theories

Chiara Chiesa - 594765

June 30th, 2022

MSc International Public Management and Public Policy

Erasmus School of Social Science and Behavioural Sciences

Erasmus University Rotterdam

First reader: Prof. Dr. Darren McCauley

Second reader: Prof. Dr. Adria Albareda Sanz

Word count: 19229

Abstract

Cities around the world have been facing many challenges due to climate change and increasing urbanisation. A winning strategy to tackle them seems to be Smart Cities plans. They use new technologies to make the city more liveable and sustainable for their citizens. This paper treats the main concepts in this area, like smartness, sustainability, their relationship and uses public management theories to frame cities' initiatives in terms of smart cities. In fact, the purpose is to prove the explanatory power of New Public Management and Post- New Public Management in regard to Smart Cities strategies. Data will be collected through interviews and people involved will be either based in London or Milan to have a general picture of both case studies. Results will present the main arguments around four themes which are: the smart city strategy, the role of the public sector, the role of the private sector and citizens. In the discussion, a theoretical reflection will be proposed in which hypothesis will be tested, comparing Milan and London. This process will determine whether NPM or post-NPM has an higher explanatory power in regard to Smart Cities strategies.

Kew words: Smart City; smartness; sustainability; NPM; post-NPM; local government; private sector; citizens.

Acknowledgement

I would like to dedicate this thesis to my *mom*. Loosing you six months ago was the most painful moment of my life. You are constantly in my thoughts, and I cherish everything you taught me. Words cannot describe the sadness of not being able to share this special occasion with you, but I hope I made you proud. I miss you every day.

The endeavour would not have been possible without my supervisor, Prof. Dr. Darren McCauley. I am extremely grateful for your feedback, guidance, and expertise throughout this journey. Many thanks to my second reader, Prof. Dr. Adria Albareda Sanz for taking the time to read this paper. I would also like to express my deepest appreciation to Prof. Dr. Michal Onderco and Prof. Dr. Asya Zhelyazkova for your work in organizing the programme.

Many thanks to my classmates with whom I shared experiences and memories I will not forget. You have become dear friends and a second family to me. I am curious to see what the future has in store for us, and I wish you all the best.

I am also thankful for my dad, my sisters, and my boyfriend. Your support and belief in me motivated me during this process. I love you deeply. I would like to mention my bestfriends who are always there no matter the distance. Having you by my side means a lot to me and I appreciate your encouragement when I need it. Lastly, I am grateful for all the wonderful people I had the pleasure to meet throughout my year in Rotterdam. You personally enriched me.

List of contents

List of tables and figures

1. Introduction

This research will have as main focus smart and sustainable cities. Nowadays, many cities around the globe use this term to define their city and make them more appealing. In particular, the paper will analyse two cities, Milan and London, and the goal will be to assess which framework they use to develop their smart and sustainable strategies. To succeed in this task, theories from public administration will be used and empirical evidence will prove which of them best explains Smart and Sustainable Cities Initiatives.

Urbanization is a phenomenon scientific research and policymaker have been dealing with for a long time. More and more people have been moving to urban areas, although this issue has created relevant consequences. Indeed, cities play an important role economically and socially, and furthermore, they can have a huge impact on the environment. Even though urbanization rate has been increasing for decades, it has and will reach levels never seen before. In 2020, the percentage of people living in cities was around 56% worldwide (World Bank, 2020). This figure is expected to grow and hit 68% of the total urban population out of the total global population by 2050 (U.N., 2019). In particular, the urbanization phenomenon in Europe is more concerning as current numbers are dramatically higher compared to other regions and are expected to grow even more within the next decade. By 2050, according to estimates, the European urban population will be more than 80% (Our World in Data, 2018). As a result, more people living in urban areas means also that most resources are used in cities, making them economically important. On the other hand, though, this also translates in poor environmental performance. For example, studies show that cities consume between 60 to 80 percent of energy in the world and they also emit the largest share of GHG (UN, 2018). The importance of urbanization in the world and especially in Europe and its impacts explain my interest in cities as importance actors in the international community currently but also for the future.

Due to the high impact that cities can have on several areas, the literature now is full of studies that focus on how these actors are trying to become smarter and more sustainable. This discourse is also extremely popular around policymakers who aim to label their cities as such. Even big international organizations such as the European Union is particularly interested in this topic. It is true, indeed, that a study by the European Parliament discovered that half of European cities over 100,000 citizens had implemented or proposed smart city initiatives (European Parliament, 2014).

1.1. Problem statement

As it will be explained in the literature review, there are numerous definitions of smart (and sustainable) cities. This is making this term more and more vague and less effective. The cases selected will be used to find out which kind of framework they are using to brand their city as smart

and sustainable. Some cities adopt strategies that are more concerned with developing new technologies in order to become smarter and more sustainable, therefore are more technology centred. On the contrary, others rely more on concepts such as quality of life, happiness of their citizens and sustainable development. This latter approach is more citizen centred. The aim of the research is to discover which vision smart cities use when implementing their initiatives and assess which public management theories (later explained in the theoretical framework section) fits the best with their initiatives.

1.2. Research question

Public management literature presents three main approaches, each explaining their own visions on how the public sector works or should work. First, the oldest theory is referred as traditional public administration. The second theory is the so-called New Public Management. Its supporters claim reforms in this sense aim to solve the issues of the traditional public administration. Lastly, a brand-new approach is emerging, whose name is not definite yet, therefore it will be addressed as "post-NPM". Disaggregation implemented during the NPM era had negative consequences according to post-NPM authors, namely fragmentation. Therefore, post-NPM reforms try to shift back to a more connected and integrated public sphere.

These theories will help this research to understand the direction toward which smart cities strategies are going. The goal is to assess whether these initiatives implemented at the local level follow one of the aforementioned streams. Therefore, it can be said that the research question of this paper is the following:

"Which public management theory best explains Smart Cities' strategies?"

In particular, two case studies will be examined in order to draw our conclusions. London and Milan agendas will be the cases selected and the analysis will allow to understand which theories best fit with their agendas. Further sub-questions can be presented, two per each public management theory taken into consideration.

For NPM:

- "Do public officials act as private managers and citizens as costumers in the Smart City strategy?"
- "Does the public sector use managerial practices when implementing public policies?"

For post-NPM:

- "Can public officials and other stakeholders be co-creators of the smart city strategy?"
- "Do Milan and London adopt an integrated approach for their SC strategy?"

1.3. Relevance

This section will be dedicated to the concept of “relevance”. The latter helps stating whether the research question is formulated in a proper way. It is often analysed dividing it into two different dimensions: theoretical and social. This allows the researcher to spot any potential weaknesses on each dimension and present different considerations and cures. On one hand, the theoretical tells the analytical contribution that a certain research question gives to the scientific discourse of the subdiscipline. On the other hand, the social relevance aims to assess the social and political impact of the research and how the phenomena studied will affect people (Lehnert, Miller, & Wonka, A., 2007).

1.3.1. Theoretical relevance

The main topic of this research is to analyse how smart cities frame their smart cities’ strategies, using public management models as theoretical basis. Municipalities often use different definitions of smart cities and based on that they construct their strategies. The paper will look at public management theories, namely New Public Management and Post-NPM, and decide which one is more suitable for Milan and London’s smart city strategies. Therefore, it can be said that this research is theoretical relevance as it applies normative public management models to real case studies. By doing so, it helps assessing the validity of theories when applied to real life.

Furthermore, the research synthesizes and explain different theories: New Public Management and Post-NPM, identifying their main assumptions and consolidating their theoretical knowledge. This is particularly relevant for the second theory since, as it will be seen later, it is not well-defined yet. Therefore, the goal is to present the main characteristics of both and give a clear definition of the emerging model, which still has vague boundaries.

1.3.2. Societal relevance

The research attempts to be social relevant by increasing the transparency over how cities implement their smart cities initiatives. The latter have an impact on the citizens because they aim to improve the quality of life, the environment, and more generally the structure of the whole city. The framing of such initiatives can also have an impact on the outcome of these measures. Therefore, knowing the framework of each of them will help the civil society to understand public policies better and consequently being more critical towards smart cities’ strategies. In addition, it can also come to a hand to policymakers when evaluating their policies and determine potential weaknesses that can be ameliorated.

2. Literature review

A good research always begins with the review of previous work on the subject in question. Developing a proper literature review is functional to improve the knowledge about a topic and to understand what has already been studied or what needs to be discovered (Buttolph Johnson, Reynolds, & Mycoff, 2016). In order to do that, I will include several papers that deal with the topic of smart sustainable city. It will be presented how the literature defines the concepts of smartness and sustainability and how it studies the correlation between the two. It will be seen that these ideas have been the subject of a multitude of research, and they often adopt different definitions and approaches. Most of the work examined is useful to understand what makes a city smart. Each definition includes different elements, and this makes this concept too broad and less effective. Therefore, there is the need to investigate it more and better, understanding what it really means.

2.1. Why has the smart city discourse become more prevalent?

First, it is worth mentioning why the smart city discourse is receiving a lot of attention in the policy-making world. (Haarstad, 2016) gives three reasons in this regard. It is often said that technology is able to tackle societal challenges. This narrative is appealing especially to companies as the products they produce provide solutions to solve such issues. In the second place, this concept is attractive because it brings new forms of problem-solving and new governance models. (Ney & Verweij, 2015), for example, talk about contemporary problem-solving methodologies which entail a more democratic, practical, open, and experimental way of dealing with problems. Lastly, smartness gets along with the so-called “post-political condition” in planning. Politics is no more about contestation and conflict, but rather consensus-based. Nowadays, there are challenges that affect every society indistinctively and concepts such as “smart”, “sustainable”, and “low-carbon” are often used as desirable goals; no one dares to oppose them (Haarstad, 2016).

2.2. Defining the concept of Smart City

But what does “smart city” mean? (Albino, Berardi, & Dangelico, 2015) well present the many definitions that surround the term of “smart city”. This label has a vague conception and it often defined in different ways. Chronologically, the term appears for the first time during the 90s. Back then, the concept of smart cities was mainly referring to new ICT within smart cities’ modern infrastructures. Years later though, critics raised claiming smart cities related to something too technical-oriented. Instead, they advanced a more governance-oriented approach, highlighting the importance of social capital and relations for the urban development. Nevertheless, the concept of smart city can adapt and be used differently depending on the context. For example, at the governments and public agencies level, smartness is a term often related to those policies and programs that target sustainable development, growth, better quality of life for their citizens, and creating happiness (Ballas, 2013). This interpretation particularly got my attention as smartness does

not necessarily refer to the diffusion of ICT, but, on the contrary, it cares about people and communities. In conclusion, Albino et al. (2013) come up with two “domains” to explain these variations. On one side, the “hard” domain is ICT-centred and involves buildings, energy grids, natural resources, water management, waste management, mobility, and logistics. On the other side, they call “soft domains” when they talk about education, culture, policy innovations, social inclusion, and government in which ICT is not essential (Albino, Berardi, & Dangelico, 2015).

2.3. Smart City and Sustainability

Recently, the idea of smart city is often linked to that of sustainability. As it was for smartness, also the term of sustainability may have many interpretations. In this regard, Turco (2012) and Berardi (2013) help defining the term “sustainability”. In particular, the first discusses the debate around urban sustainability whereas the second around sustainable buildings. In the past, (urban) sustainability was thought to “rehabilitate” natural capital stocks, for example, local fisheries, forests, and agriculture land. Although, this definition was highly criticized by those claiming that cities will always be net consumers of resources. They also believe urban areas will damage the environment because of the many economic and social activities. Scholars also argue that there are few examples of entire communities that actually managed to become sustainable in their social and economic processes. Nevertheless, some see sustainable cities in a positive way, stating that this label is functional to help urban areas transitioning towards a more stable and balanced environment. Cities, indeed, could provide a better quality of life to their citizens, use resources more efficiently, decrease their waste and greenhouse gas emissions (Turco, 2012). When trying to present the whole debate of sustainable buildings, Berardi (2013) is inspired by the definition given to “sustainable development” and believes this notion could enter the discussion of buildings. UNEP Symposium gave the first definition to sustainable development, demanding the inclusion of future generations and long-term projections. Few years later, Brundtland Commission came up with the most used definition of sustainable development which is “development which meets the needs of the present without compromising the ability of future generations to meet their own needs” (Berardi, 2013).

Ahvenniemi et al. (2017) present the debate around the connection between smart cities and the concept of sustainability. They highlight the presence of two streams of thought. The first is more focused on ICT and believes that technologies are an indispensable tool to improve the sustainability in smart cities. The latter position is supported by the European Commission, who invest the majority of EU’s public smart cities funds in sectors such as energy, transport and ICT (Horizon 2020 “Smart cities and communities”). In addition, (Marsal, Colomer, & Meléndez, 2014) lean on concepts like sustainability and quality of life when measuring environmentally friendly and liveable cities, doing so by recognizing the importance of modern technologies when creating smart cities. Nowadays, this is a common understanding among policy makers and academia (Ahvenniemi, Huovila, Pinto-Seppa, & Airaksinen, 2017).

Nevertheless, another part of the literature presents a more holistic approach. According to this thinking, smart cities involve not only technologies but also governments and societies to develop a smart economy, smart mobility, smart environment, smart people, smart living, and smart governance (Ahvenniemi et al., 2017). (Caragliu, Del Bo, & Nijkamp, 2011)are another good example of this vision. They define smart when cities invest in human and social capital, but also in traditional and modern communication infrastructure. The ultimate goal is to reach a sustainable economic growth and a high quality of life, taking into account an efficient usage of natural resources. Finally, an appropriate definition in this sense is given by the Joint Programme on Smart Cities (European Energy Research Alliance). In particular, it emphasises the environmental sustainability factor in a smart city, stating that "smart cities are expected to move the energy system towards a more sustainable path. This will require an integrated systems view as well as innovative, intelligent approaches to the design and operation of urban energy systems." (EERA Joint Programme on Smart Cities, 2013).

Although, an unclear point is to what extent the smartness agenda can affect the sustainability of a city. The existing literature is mostly critical toward the vision that the smartness agenda may promote sustainability or any other societal issues and there is little empirical research that study the correlation between sustainability and smart cities strategies (Haarstad, 2016).

2.4. Public management theories

The goal of this research is to assess whether public management theories are mirrored in Smart cities' initiatives. Therefore, a brief introduction of these approaches seem logic and they will be explained in more detail under the theoretical framework section.

What is often seen in regard to public management reforms is a process of sedimentation or layering. This process refers to the fact that new layers do not really replace or wash away the previous ones. Consequently, differ models of public management may coexist at the same time, leading to hybridity and more complexity in the public sector (Pollitt & Bouckaert, 2017).

Nevertheless, for the purposes of this research, it is importance to treat these public management reforms as separate, or as (Pollitt & Bouckaert, 2017) define them "waves". In the late 60s and early 70s, the first wave is seen mainly in countries such as USA, UK and France and was related to rapid advances in science and technology and a huge growth of the field of social sciences studies. (Dror, 1971)explains that this wave involved a more rational "designed" set of public policies and institutions. Later, a second wave was triggered by the global economic disturbances of the 70s. The idea that started to spread was that government were "overloaded" and that Western welfares were "unaffordable" and ineffective. Therefore, the need to make to government more business-like and to desire to save money, increase efficiency became prominent. This way of thinking was later defined as New Public Management (NPM). The latter model spread to more and more countries

throughout the 80s and even the 90s. Although, reforms slowly started to shift towards “governance”, “partnerships”, “joined-up government”/ ”whole of government” and also to “trust” and “transparency”. Concepts like efficiency and quality did not vanish from the political agendas, but they stopped being the priority of policymakers. (Bouckaert, Peters, & Verhoest, 2010) talk about the negative consequences that NPM reforms produced, like coordination and accountability issues. As a consequence, political agendas shifted their concerns to “strategies”, “joining up”, “inter-service coordination”. Finally, another term started to circulate even though it does not constitute a model itself: e-government. ICT are becoming more and more important, and they are believed to increase public sector productivity, improve citizens’ access to information and public services and even provide a fundamental tool to better implement the so-called “participatory democracy”. What it seems is that e-government represents a tool to implement different kind of reforms. In fact, in may serve to modernize traditional bureaucracies, facilitate NPM reforms or it could be designed to promote networking and governance. (Bekkers & Homburg, V., 2005)claim that it all depends on the context in which these technologies are introduced.

These waves of reforms triggered the creation of several normative models that public administration started to use in order to improve the public sector. The following section about the theoretical framework will explain these models in more details.

3. Theoretical framework

The aim of the research question is to determine which public management model cities use to build their smart strategies. Therefore, the theoretical framework that will be developed now will help explaining these models. As mentioned before, in the literature, the concept of “waves” is found to describe the implementation of different public management reforms. In this regard, the first major normative model is the so-called New Public Management. Although, the success of NPM is still discussed, some authors are now debating whether a newer post-NPM model is emerging to compensate the previous one (Pollitt & Bouckaert, 2017). First, the following section will describe what NPM entails and its controversies. Second, the focus will be on the post-NPM reforms and how this model is still studied and developed.

3.1. New Public Management

The relevance of this model for this paper is that NPM has been seen in all public services sectors, from government and governmental organizations, but also in regional and local government (Diefenbach, 2009). The rise of new public management was first seen in the UK, but then spread to other countries as well. Its rise seems to be linked to what some authors identify as “megatrends”. (Dunsire & Hood, 1989) refer to the desire to slow down or reverse the growth of public spending and staffing. Second, (Hood & Schuppert, 1988) and (Dunleavy, 1985) mention a shift toward privatization/quasi-privatization. Thirdly and fourthly, (Hood, 1991) includes as megatrends the development of automation, like ICT when producing and distributing public services and the development of a more international agenda. However, the question that the literature often tries to answer is why NPM emerged in this particular time and place. (Hood, 1991) presents some explanations but claims that the most appropriate one is that NPM emerged as a response to special social conditions evolved after War World II in the developed countries. This particular period was characterized by a unique economic growth which made it possible for the NPM to develop. Specifically, these conditions involve the shift from an electorate supporting government growth to a more tax-conscious one; development of new technologies that initiate changes in the socio-technical system, making possible to break the barriers between the public sector work and the private sector work; a more white-collar population that is less inclined to statist and uniform approaches in public policy.

3.1.1. NPM core elements

NPM is a loose term and therefore difficult to define. It is debated between those who think that it is the only solution to correct the failures of the “old” public management and those who blame it for destroying a century-old public service ethic and culture. Despite the debates about its validity, (Hood, 1991) attempts to highlight NPM’s main doctrines. According to this author, NPM lies on seven factors. First, it is what he calls “*hands-on professional management*” in the public sector. This

translates into appointing named persons at the top who are “free to manage” and have an active, visible, discretionary control over the organization. The main reason behind this is to increase the accountability of the appointed people who have clear responsibilities, and therefore it is easier to judge. NPM is also known to put a lot of emphasis on *standards and measures of performance*. Supporters on this model highlight the importance od goals, targets, indicators of success. The need of defining precise goals is functional to measure accountability and efficiency, two milestones for NPM. A third element of this theory is the focus on *results* rather than procedures. Therefore, there is a greater emphasis on output controls. For example, often the allocation of resources and rewards is linked on measured performance. Fourth, a shift towards *disaggregation* of units in the public sector is seen in the NPM reforms. the intent is to break up the “monolithic” units of the old public administration and create decentralized units that deal with one another on an arm’s length from the government. The justification is the desire to create more “manageable” units in order to take advantage of contracts or franchise arrangements both inside and outside of the public sector. Disaggregation brings us to the fifth main characteristics of NPM, which is a greater *competition* in the public sector. As mentioned before, under NPM there is a greater use of term contracts and public tendering procedures. The scope of increasing competition is to lower costs and achieve better standards. In addition, NPM is recognizable because it puts a lot of stress on *private-sector styles* of management practice. The purpose is to achieve greater flexibility in hiring and giving rewards by diverge from the military-style public service ethic. Therefore, it is seen the use of private sector management tools in the public sector as well. Finally, the last factor that characterizes the NPM model is a special focus on greater *discipline and parsimony* when using resources. Reforms in this sense will cut direct costs, improve labour discipline, resist union demands and contain “compliance costs” to business. The final goal is to better check resource demands of the public sector and the slogan is to “do more with less”.

3.1.2. NPM’s implications and downsides

In order to understand the other theory (post-NPM), the following section will focus on the critics towards NPM. Post-NPM model is, in fact, built on the negative effects that NPM reforms have caused to the public sector.

For instance, more business environment has three major implications. It makes the public sector more market-, stakeholder- and customer-oriented. Nevertheless, each orientation produces some negative consequences. First, the market-orientation changes the governance ethic from the traditional principle of public welfare to the commercial norm of value-for-money. According to the latter norm, everything has to be translated into value and therefore validating what (Adcroft, 2005) define as “commodification of services”. Although, the mentioned principle does not follow the idea that public services should be provided despite of their need, cost, and ability to pay. Marketizing the public sector, indeed, goes against values like social equity, integrity, care for qualitative dimensions,

citizenship, and welfare (Diefenbach, 2009). Second, a loss in these values is also seen due to the second orientation of NPM, stakeholder-orientation. In order to meet targets and requirements, strong and influential external stakeholder, such as funding bodies, usually receive more attention than less powerful and influential stakeholder, like poorer citizens and community. Third, referring to people as customers may go in contrast with the idea of citizen. On the contrary to consumers, citizens are able to engage as active member both consciously and politically within the community and are usually interested in public affairs and the welfare of others (Gabriel, 1999). Consequently, customers present less needs and are more related to the basis of the concept of "supply-demand". Differently, citizens may appeal to a broader range of democratic values of citizenship (Diefenbach, 2009).

A second implication regard to increase of decentralization through NPM reforms. Decentralizing may look good on paper because it is supposed to increase flexibility and reduce hierarchy compared to the old public administration. This translated into faster decision-making processes, reduces internal barriers and faster delivery of products and services. Although, the reality is quite different and (Pollitt, 1990) presents at least two facts for that. On one hand, decentralization mainly affected few areas which were usually of secondary importance or unpopular. On the other hand, decentralization often resulted in centralization on areas like strategy, policy, and planning.

Another implication of NPM regards the performance management and measurement system. The introduction of additional systems and processes of auditing, control, regulation, assessment, and inspection seems to produce positive effects in the public sector. The latter regard an increase in efficiency, productivity, quality, performance and motivation. In addition, management can be based on facts and hold people accountable. However, it is studied how performance measurements are still quite limited since it is difficult to elaborate a multi-dimensional system able to comprehend all the aspects of the public sector. furthermore, some of these aspects are not quantifiable like fairness, dignity, equality, justice, freedom, and social impacts of initiatives. As mentioned before, these values are particularly threatened by NPM (Diefenbach, 2009).

Fourthly, the role of public officials under NPM is different compared to the old public administration. Here, they are seen as "managers" thanks to the prevailing idea that the public sector should be managed by managers (Deem & Brehony, K. J., 2005). The issue with managers is that they tend to be more concerned about their individual interests and social and influential status, being reflected in their public decisions. This situation can have devastating consequences on the quality of services public sector organizations deliver and on the people that use these services.

Finally, NPM means to change the staff's attitude, making it more business-like, pro-active, and entrepreneurial. In addition, the public sector environment should become characterized by leadership and a new corporate culture. Nevertheless, the reality shows a different scenario. Employees are more stressed due to an increase workload and more challenging working conditions

(Newton, 2003). (Pollitt, 1990) claims that staff is less motivated to work for the public services and is not satisfied by how they are being treated.

Since NPM produced undesired effects, a new model is now underway to help fixing what NPM made worse. The next section will be dedicated to explaining this new public management theory.

3.2. Post-NPM: an emerging approach

New challenges are threatening not only governments but also the private and non-profit sectors and civil society in general. New measures need to be taken in order to tackle natural disasters, failures of large parts of the economy and inequalities within, for example, the healthcare and education systems. Therefore, a new approach seems to be emerging for the purpose of dealing with the aforementioned issues. The term is still a little loose, but some papers are helping to better define it (Stoker, 2006) (Jorgensen & Bozeman, 2007) (Osborne, 2010). In general, scholars base the new approach on different theoretical and epistemological foundations than NPM. In particular, public value and public values play a special role and according to post-NPM, they are emerging from dialogue and deliberation. Principles like citizens, citizenship and democracy become central within the public sphere. The following section aims to explain these concepts in more details. First, the difference between public value and public values will be presented and the definition of public sphere described.

3.2.1. Public values, public value, and public sphere

The emerging approach does not have an agreed name yet. Although, three issues are central: public values, public value, and public sphere. (Jorgensen & Bozeman, 2007) refer to public values on three levels, which are as rights, obligations, and principles. First, rights intended as benefits which citizens are entitled to. Second, they talk about obligations in regard to what citizens own to the society, the state and to one another. Third, government and policies should be based on certain principles. Examples of important public values are effectiveness, efficiency, accountability, justness, fairness in the context of democratic governance (Moore, 1997). On the contrary, it is said that public value is defined as the relationships between the individual and the society. These relationships can also be evaluated whether they are positive in the case they satisfy the needs of the individuals (Meynhardt, 2009). In this way, the definition of public value has two implications. On one hand, public and private spheres are very much interconnected. On the other hand, the definition implies that public value can be measurable.

A third concept often cited in the literature and that characterize the emerging approach is the so-called “public sphere”. (Benington, 2011) defines the public sphere as “a democratic space” in which a “web of values, places, organizations, rules, knowledge, and other cultural resources held in common by people through their everyday commitments and behaviours and held in trust by

government and public institutions". He also adds that it is "what provides a society with some sense of belonging, meaning, purpose, and continuity, and which enables people to thrive and strive amid uncertainty". He believes that the public is something that is contested, and it is built thanks to continuous process of dialogue. Consequently, the public sphere is continuously constructed by the actors involved in the public space. Therefore, the latter is a psychological, social, political, institutional, and physical space where public values and public value are created or destroyed.

3.2.2. The public value idea's implications

Once explained the main concepts of the post-NPM approach, the following section will be devoted to present the implications of this vision.

In the first place, it almost widely accepted, even from critics, that the concept of public value creation is gaining broad interest (Rhodes & Wanna, J., 2007). The study of public values is becoming more and more relevant in public administration as well as the attention to the public sphere. New debates surround the limits of the role of government, public engagement and active citizenship, and the need for strengthened democracy (Bryson, Crosby, & Bloomberg, 2014). The reason of the increased importance of these concepts is that the idea of public value can now be used as a paradigm in order to better explain networked governance, compared to the traditional public administration and New Public Management. Therefore, the focus is more on a networked interorganizational and cross-sectorial type of relations and governance (Stoker, 2006).

In the second place, the public value approach can also be understood as a rhetorical strategy that integrates different visions, actors and values. In this sense, (Smith, 2004) suggests that "focus on public value enables one to bring together debates about values, institutions, systems, processes, and people. It also enables one to link insights from different analytical perspectives, including public policy, policy analysis, management, economics, and political science". Therefore, the role of public managers is to implement an integrative approach, which involves linking together unrelated or even oppositive concepts in order to increase the level public value across sector (Bryson, Crosby, & Bloomberg, 2014). In this emerging vision, the role of the government is to contribute as special player to the creation of public value and also as a guarantor of public values and the public sphere. Although, it is not the only one in charge of these tasks. In a cross-sector collaboration, integrative leadership, and networked governance scenario, non-profits, businesses, the media, the citizens represent other fundamental key players in the creation of public value. As a consequence, public managers are meant to work closely together with them.

Fourth, it is seen that public value is also used as a tool to measure performance or a way to frame management. Scholars suggest that, when evaluating public value creation, public managers should calculate costs and benefits, but also other less tangible aspects (Moore, 2013). In addition, other public value criteria are developed to assess the amount of public value created or diminished.

Finally, it is also mentioned how public value can serve as a parameter to evaluate the viability and reliability of public investments in the long run (Fisher, 2014). One good example in this sense is the "public value mapping" developed by Bozeman and his co-authors. The goal is to facilitate identifying public values, judge whether any public values failure has happened, delineate the relationships among the values and to graphically map the relationships between public value failures and market failures. In regard to the use of public value as management framework, (Kernaghan, 2003) analyses four Westminster-style governments and their statements. Each of these governments are characterized by several values that go beyond efficiency. For example, he found values such as "joined-up government", "whole-of-government" and collaborative governance initiatives and they were all implemented to respond to the fragmentation caused by NPM.

3.3. Comparison between the theories

In order to better comprehend the two theories and understand what the research aims to compare, a table will be created to help. In addition, it will be useful to determine the main areas of focus of the research and consequently presenting specific results.

The table presents five sections that highlight the main differences between the theories: the role of public managers/officials, the role of citizens, main values, how to create public value, kind of environment envisioned.

Table 1 Comparison of theories' main features

Theories' features	NPM	POST-NPM
Role of public managers/officials	They are intended as managers, like the ones in the private sector.	The role of public officials under Post-NPM is to create public value and carry out this task together with the civil society (non-profits, businesses, citizens)
Role of citizens	They are merely seen as customers of public services	They are seen as capable of playing an integral part in the creation of public value
Main values	Efficacy and efficiency	Equity, justice, democracy, citizenship
How to create public value	By adopting managerial practices into the public sector	Public value can be created through an integrated approach

Kind of environment envisioned	The public sector needs to have more business-like features	The public sector is meant as networked governance

3.3.1. Hypothesis

Based on the theories explained above, the following hypothesis can be made:

- For the NPM theory:

  H1: Values behind the Smart City strategy are mainly the ones of efficiency and efficacy.

  H2: The role of the public officials will be to act as managers, exactly as in the private sector.

  H3: In the Smart City strategy, citizens serve only as costumers of public services.

  H4: The smart city strategy can be implemented through the usage of managerial practices into the public sector; therefore, the public sector is required to present more business-like features.

- For the post-NPM theory:

  H5: Values behind the smart city strategy are considered “public” values, such as equity, justice, citizenship.

  H6: The role of the public sector will be to create the smart city strategy and carry out this task together with the civil society (non-profit organizations, businesses, citizens…)

  H7: Citizens are able to play an integral part in the creation of the smart city strategy.

  H8: The smart city strategy can be created through an integrated approach. Therefore, the environment envisioned is more a networked governance. When implementing their smart cities’ strategies, Smart cities will consider public values like equity, justice, citizenship using a networked governance approach. That means that municipalities will deal with all parts of civil society, from citizens to businesses and non-profits.

4. Methodology

4.1. Research design

Research design can be defined as the tool that "provides a framework for the collection and analysis of data. A choice of research design reflects decisions about the priority being given to a range of dimensions of the research process" such as "the causal connections between variables, generalizing to large groups of individuals than actually forming part of the investigation, understanding behaviour and the meaning of that behaviour in its specific social context, having a temporal appreciation of social phenomena and their interconnections" (Bryman, 2012). Often research designs are confused with the term "research methods", although they represent two very different concepts. The latter, in fact, refers to something that can be associated with different types of research design. In addition, they tell how the researcher will collect data, whether he/she observes, he/she carries out interviews, he/she examines documents, and/or he/she uses questionnaires (Bryman, 2012).

This section will be divided in the explanation of different research designs, choosing then which is the most appropriate for this paper. In particular, two main research designs will be discussed, co-variational and congruence analysis, presenting their main features in order to understand which fits best with the whole research. They are both research approaches to small-N studies as this research is as well a small-N study. Afterwards, the research methods used for the purposes of the research will be outlined.

4.1.1. Co-variational analysis

The first research approach to small-N studies is the so-called co-variational analysis (COV). According to this methodological perspective, empirical evidence is presented in order to show a co-variation between an independent variable X and a dependent variable Y, between which a causal relationship applies. The main research goal of this approach is to determine whether a certain phenomenon of the social reality has a marked effect in the social reality itself. The process to accomplish this goal involves comparing different cases and also comparing the variation between the scores of the independent variable, usually called X, and the scores of the dependent variable, usually called Y. One of the reasons behind this is the curiosity to find out whether a change in a factor has produced the desired effects, therefore whether it "has worked". Although, not only goals of applied research are pursued, but there could also be more theoretically oriented research goals. So, for example, generally understanding the factors that influence the dynamics of a certain phenomenon (Blatter & Haverland, 2012). In relation to this paper, there may be some incongruences in this sense. In fact, the research question does not present any causal relationship as there are no independent and dependent variables.

First, the literature suggests that cases should not be chosen randomly. The selection of cases is particularly relevant for this type of analysis because choosing randomly cases that do not present different independent variable of interest could obstacle the purpose of the whole research. Therefore, the author should proceed in choosing case studies where the factor of interest is present in one case and is absent in the other one. Second, selecting random cases may end up resulting in varying variables which are instead supposed to remain constant. This characteristic is particularly important because, with this variation, there would not be a "control group". On the contrary, the research should follow some criteria when selecting his/her case studies (Blatter & Haverland, 2012).

As mentioned above, in the co-variational analysis, it is functional to have varying independent variable. This variation can be either spatial and/or temporal and from it four modes of comparison within this approach can be described. The first design is called cross-sectional and is the kind of comparison that involves spatial variation of the independent variable, or in other words the variation across different cases at the same time period. The second design is defined as intertemporal design and takes into consideration the temporal variation of the independent variable over a long period of time. In this case, the comparison describes the before and after scenario when a change in the score of the independent variable takes place. In addition, a third design is possible combining both a spatial and a temporal variation, the so-called cross-sectional-intertemporal design. The fact this research about Smart cities strategies is missing a causal relationship translates in the absence of any variations, either spatial or temporal. Finally, an opposite design is the one called counterfactual design. Here, neither temporal nor spatial variation is involved. It has been said before that, only cases having varying independent variables were worth analysing. Nevertheless, this type of design has been receiving an increasing space by several fields such as international relation and comparative politics. What the researcher does in this case is proceeding with a thought experiment by studying how the variable dependent would have reacted if the independent variable had been different (Blatter & Haverland, 2012). Once again, without having independent variable in this research question, it would be impossible to carry out an experiment by changing it.

Another feature of the co-variational analysis is the function of prior knowledge and theory. In order to make a relevant scientific contribution, the researcher also needs to master the scientific debate around the topic he/she is approaching and has to manage to relate the two. In fact, prior knowledge and theory have their specific roles within the co-variational approach. In the first place, they explain the main concepts of the independent and dependent variables, defining the main factors of interest like the social phenomenon or outcome that should be affected by the independent variable. In the second place, prior knowledge and theory address what the research should expect in terms of relationships between variables. That means that they present possible explanations on why the independent variable may positively or negatively affect the dependent variable. Finally, they provide other rival explanations in regard of the other independent variable that need to be kept controlled.

In conclusion, these were the main elements that characterize the co-variational approach. Although, after describing them, it seems that this type of design does not fit properly with the research design that this paper needs. In particular, two are the arguments that have been found to support this statement. On one side, in order to use the co-variational design as research design, the research goal of a paper should be to study a causal relationship between a variable X and a variable Y. Although, this research does not attempt to find any causal relationship since there is no independent variable that may have caused an effect on a dependent variable. Therefore, it would be complicated, if not impossible, to have any spatial and/or temporal variation of the independent variable that may have impacted the dependent variable. Consequently, it can be said that the research goals are different. On the other side, the role of prior knowledge and theory in the co-variational approach does not satisfy the functions that they should have in this research. In the former, it seems like they play a secondary role compared to the causal relationship. On the contrary, in this research, perhaps due to the lack of such relationship, prior knowledge and especially theory become of primary importance. They will help address the research question of how smart and sustainable cities frame their smart strategies.

4.1.2. The congruence analysis

Now it is the turn for the second research design whose elements will be presented and based on them, it will be assessed whether it is suitable for this research or not. The Congruence analysis approach (CON) is a type of small-N research design. Contrary to co-variational analysis, the aim is to analyse case studies and to present empirical evidence in order to comprehend the explanatory relevance or relative strength of a theory compared to another or others theory/ies. The process involves advancing specific propositions and observable implications based on abstract theories and afterward comparing them with empirical observations. A higher degree of congruence is noticed when deduced implications from one theory are seen in the observed evidence of the case studies in consideration compared to the degree of congruence of expectations from a different theory seen in the empirical evidence. The result would be that the first theory has a stronger explanatory power compared to the second one.

The CON approach can have two pro-typical questions with two different goals. The first one asks whether a theory gives a better explanation compared to other theories, therefore using a competing theories approach. The second kind of question tries to determine whether one theory provide relevant explanatory insights that are not present in any other theory. The latter uses, on the contrary, a complementary theories approach. Therefore, on the one hand, the first perspective sees the theories in clear oppositions to one another, resulting in contradictory implications in the empirical world. The goal would be then to appoint the most important and relevant theory. On the other side, the second perspective supposes theories give complementary implications about the real world and it pursues the application of plurality of theories approach. The reason behind this method is that it

does not see it as a source of confusion and uncertainty, but it supports the idea that it gives a more comprehensive explanation of the social reality.

Furthermore, the congruence analysis implies two methodological elements of control: a vertical element and a horizontal element. The first element consists of presenting propositions and predictions from theories and compare them with empirical observations. The horizontal aspect involves showing that one theory has a higher empirical congruence than other theories.

After having presented the crucial features of the congruence perspective, it can be said that they fit with the type of analysis that this research is aiming to carrying out for two reasons. In the first place, this paper can be considered a small-N research since it takes into consideration two case studies, London and Milan. In the second place, through analysing two case studies, the aim is to find empirical evidence and test the explanatory relevance or relative strength of the two theories chosen, namely NPM and post-NPM. Therefore, the process will involve finding which theory has the more explanatory power just as the congruence analysis presupposes.

4.2. Case selection and background

Finally, the paper aims to be a case study, having as subjects two cities, namely Milan and London. The case selection is not random but takes in consideration several factors.

Bloomberg (2020) defines Milan as “Milan is Italy’s financial and business capital, a global fashion hub, a manufacturing powerhouse, encircled by rich agricultural land, a destination for millions of tourists every year. So, in a very real sense, the fate of Milan is the fate of Italy.” (Ebhardt, Lepido, & Sirletti, 2020). Its importance for the country makes it a special case study in regard of this paper’s topic. The city is at the forefront in terms of new technologies and is usually taken as an example by other Italian cities. Milan, in fact, also scores very high in the Italian ranking of smart cities. According to ICity Rank (2019), Milan has been elected the smartest city of the country for six consecutive years, from 2014 to 2019, whereas in the last two years it was second only to Florence (ICity Rank, 2019) (ICity Rank, 2021).

In December 2012, Milan began to create its project “Milano Smart city” and carry out public consultations. Few months later, in April 2013, the first Public Hearing took place between the Milano Smart City and the Chamber of Commerce. This meeting was followed by a series of public consultations with different stakeholders and the creation of seven “smart” thematic working groups. Finally, in May 2014, the City Council approved the Smart city guidelines. The seven pillars include the wellbeing in the city, the enterprises’ creation, administrative simplification, social inclusion and diversity, global city, sustainable urban mobility, and environmental and energy policies (Municipality of Milan, 2018).

On the other side, London was chosen because it presents similar characteristics with Milan and for its performance in terms of “smart city” nationally and worldwide. The capital is the UK’s political centre and, as Milan, the financial heart of the country. In an article by The Guadian (2019), it was even called “the UK’s golden goose” (Brown, 2019). In addition, London is the smartest city in the UK and second smartest after New York in the world based on Z/Zen’s Smart Cities Index (Barrett, 2021). Therefore, it will be a relevant and interesting case.

Last London Smart City strategy has been developed by Mayor Sadiq Khan and is called “Smarter London Together”. The latter builds on the last Smart London strategy in 2013, which has been updated in 2016. The city is divided in 33 local boroughs and the process involves making them work together with data and digital technologies in seven different fields: transport, environment, health inequalities, housing, culture, economic development, and the London Plan. The strategy’s ambitious goal is to make the city the smartest city in the world and tackle the issues connected to the population growth which is supposed to reach 11 million residents by 2050 compared to the roughly 9 million in 2019 (Smarter London Together, 2018).

4.3. Data collection

The research will be conducted in relation to London and Milan’s smart cities strategy, which have both been in place since more and less a decade. First, these two cities seem very committed to become smarter and more sustainable, and periodically update their plans. Second, the timeframe of ten years will allow the collection of enough data and a deeper understand of the topic in consideration. In addition, the data collection will involve interviews. The participants of the latter will come from different background and consequently may have different points of view which will paint the bigger picture of the smart cities’ initiatives panorama.

4.3.1. Interviewing in qualitative research

Interviewing is the most widespread tool when conducting qualitative research. Two of the reasons are its flexibility and the fact they can easily be more accommodated into the researchers’ personal lives. Although, writing the transcription of the interviews and then analysing them requires a lot of time (Bryman, 2012).

There are two main types of interviews: individual interviews and focus groups. This research will mainly prefer the first kind. In addition, the approach will be unstructured or semi-structured in order to get the most out of the people interviewed. In fact, the focus is on the interviewees’ point of view so the structure cannot be fixed but it has a different flow depending on the answers participants give. What normally happens in qualitative interviews is that the researcher begins with some kind of interview guide, although throughout the interview, he/she may add new questions that are based

on the interviewees' replies. Therefore, each interview may end up taking a different direction. Finally, what the researcher is looking for are rich and detailed answers.

The aim of this research is to understand whether theories like NPM and post-NPM fits the Smart City Strategy of London and Milan. To answer this research question, the researcher will try including people from the municipalities and from the civil society, like businesses and citizens. The latter process will help constructing in practical terms what there is really behind local governments' plans. Furthermore, the interview will mainly follow a semi-structured pattern.

4.3.2. Interview structure

As mentioned before, qualitative interviews can be unstructured or semi-structured. The first ones are very similar to conversations. Normally, the interviewer uses only a brief set of topics he/she wants to cover and apart from that the discussion can develop freely. The second type of structure usually includes the so-called interview guide which comprehend a list of questions in regard to specific topics that the researcher wants to ask to the interviewee. Despite this, the participant has a rather big margin for his/her answers. The order may differ from the initial guide and new questions may come up during the interview based on the things said by the interviewees, but the majority of the pre-made questions will be asked (Bryman, 2012).

That said, the data collection will follow a semi-structured approach since it has fairly clear focus. In fact, the researcher wants to find which public management theories best applies to the case studies of Milan and London. In order to measure the explanatory strength of the selected theories, the questions will be based on four central themes. First, an interview guide will be created covering these four areas, namely the definition of a smart and sustainable city applied to each case, the role of the local government in implementing the Smart City Strategy, the role of the citizens and the role of the private sector. Second, based on the person interviewed, questions may differ from one interview to another, but always keeping in mind the aforementioned categories.

Interviews involved a series of different types of questions. From introducing and structing questions when beginning a new topic, to follow-up and specifying questions to get the interviewee elaborate more on his or her answer. Direct and indirect questions were also used often when wanting to know a specific aspect about the research topic. Interesting enough, silence has been a powerful tool. Pausing for few seconds after the interviewee's answer sometimes resulted in an opportunity to reflect and amplify the answer just given. It was crucial to carefully listen to the person talking in order to cover the most important aspects and receive the information needed for the purposes of the research (Bryman, 2012).

4.3.3. Interviewee selection

People interviewed for the purposes of this research are based in Milan and London. Half of them were chosen for their expertise and involvement in the topic. Those are the people that work or deal with the municipality daily within the Smart City strategy. The other half are citizens and their contribute serves to give a point of view on how these cities are liveable.

Table 2 Interviewees' details

Interviewee – reference number	City	Interviewee role/Job position
Interviewee#1	Milano	Municipality of Milan, Mobility Unit. Previously, Smart City Unit
Interviewee#2	Milano	AMAT, public agency of the Milan municipality. AMAT is involved in the implementation of the Smart City strategy
Interviewee#3	Milano	Lega Ambiente, one of the biggest Italian non-profit organisations for the environment. Lega Ambiente is one the partners of the Milan Smart city plan.
Interviewee#4	Milano	Professor and expert on Italian Smart Cities
Interviewee#5	Milano	Citizen
Interviewee#6	Milano	Citizen
Interviewee#7	London	Communication manager for Sharing Cities and the Greater London Authority.
Interviewee#8	London	Smart City strategist for the Greenwich Borough, one of the 33 London Boroughs.
Interviewee#9	London	Citizen
Interviewee#10	London	Citizen

4.4. Data analysis

Qualitative data can be particularly attractive since its it may generate a large amount of textual material, something that, in the literature, is described as "attractive nuisance" (Miles, 1979). Therefore, the task of the researcher is to protect him or herself from this richness and try to collect the data in a logical and significant way in order to carry out a true analysis. A second issue comes

once the researcher has collected all the data; he/she needs as he/she needs to analyse it. Contrary to quantitative analysis, in qualitative analysis, there are only few well-established rules to analyse qualitative data. Analytic induction is the first method to analyse data that can be mentioned and consists in finding universal explanations of phenomena (Bryman, 2012). The process involves generally defining the research question, deriving a hypothetical explanation in regard the research question, and then collecting the data of the cases. A second approach when analysing data is the so-called “grounded theory”. A specific definition does not exist in the literature, although this method relates to the creation of certain outcomes like concepts, category/ies, properties, hypothesis and theory. Another qualitative data analysis approach which is present in the literature is called thematic analysis, although one of the most common, it is still underdeveloped compared to the first two. This method suggests the idea of advancing central themes and subthemes and put them together with cases and variables. The themes are to be then applied to the data, which are organized according to them and their subthemes. But what is it meant by a “theme”? it can be said that a theme is usually a category connected to the data collected by the researcher; something that is associated to the research question(s); it may be based on the codes of the transcripts and/or notes. (Ryan & Bernard, 2003) suggest paying attention to repetitions of issues that come up frequently, expressions that may be used in an unusual way, metaphors and analogies, how different interviewees may treat a topic in different ways or linguistic connectors because they represent how participants think and make connections.

Specifically to this paper, analysing data for the purpose of this research will involve a particular focus on the examination of the interpretation that interviewees give regarding their understanding of the social world. In other words, the point of views of the participants will help stating the results in regard of the research question. After presenting a research question in the introduction section and outlining a series of hypothesis in the theoretical framework, the second half of the research will concern the data collection which will involve several interviews to discuss the four main themes as mentioned earlier. Lastly, a process of coding will be used in order to present the results and the discussion in a logical way from the data collected. The latter step will be particularly relevant to prove the theoretical hypothesis and consequently to answer the research question.

As for the data collection, the data analysis will be based on the key four themes mentioned above: the smart city strategy, the local government, the private sector, and the citizens. These issues were created in order to analyse the explanatory strength of the theories explained in the theoretical framework section. In fact, they constitute the core elements of the Public Management approaches.

4.4.1. Coding approach

The coding of this paper has been carried out manually. Interviews followed the macro themes mentioned above, in order to understand the point of view of the participant in regard of each issue.

Once all the interviewed were transcribed, different coded were detected per each theme based on the answer of the interviewee. If similar arguments were encountered across interviews, they would be labelled with the same colour, which would constitute a code. The mentioned process was functional to structure even more in detail the results section. The latter will be divided not only by themes, but also by sub-themes, representing the codes found.

4.5. Reliability and validity

The relevance and quality of qualitative research can be assessed through two important criteria: reliability and validity. (Mason, 1996) mentions how reliability, validity, and generalizability are fundamental aspects to consider in order to measure the quality of a research. The researcher has to follow precise methods, conventions and principles to successfully achieve these criteria.

It is meant by validity whether the researcher is actually observing, identifying or measuring what he/she claims he/she is. Other authors go more into depth with these terms and suggest further distinctions. For example, (LeCompte & Goetz, 1982) refer to external reliability, internal reliability, external validity and internal validity. The first one means to what extent the study can be performed again in the future. Although, they point out how this feature is particularly complicated to accomplish since, sometimes, social setting and circumstances cannot be freezed. This paper may find difficulties to be replicated as in few decades new theories of public management might come up and fit best with the social reality. Smart cities strategies though could still be studied as they are a fairly new public policy, and they represent a useful tool to tackle current social and environmental issues. Therefore, it is likely they will be further implemented in the future.

The term internal reliability indicates whether there is more than one person assessing the research who agrees with what they read and hear. In this case, the research was followed by the Professor Dr. Darren McCauley. This feature increases the internal reliability of the research paper.

In regard to internal validity, the latter increases when researchers' observations correspond to the theoretical ideas that they present (Bryman, 2012). The theories selected for this research are proven to apply to many different contexts, consequently, it is expected that some of their features will be found in the study cases of Milan and London.

Lastly, external validity refers to what extent findings can be generalized to other social realities. This criterion can cause issues to the validity of the research as qualitative research tend to use case studies, meaning that what it is found in one scenario does not represent a generalized rule. Social settings, in fact, can produce different results.

4.6. Limitations of study

During the writing of the research two are the limitations that have been encountered. One regards the topic selected for the paper. The concept of Smart cities has become a particularly broad topic. Cities around the world brand themselves as “smart”, but they have different ideas on what smartness is and how to improve in this sense. Therefore, it appears that the term Smart Cities is still something difficult to narrow down.

A second limitation that has been noticed during the process relates to the data collection method adopted. Interviews are certainly an excellent way to understand the point of views of people, but in order to have a comprehensive picture of the situation, ten people may not be enough. Although, to make up for this issue, people that actually involved in the design and implementation of the Smart City plans have been involved. They were able to give a credible version of how the two cities develop their strategies.

5. Results

The following section will focus on analysing the interviews that were carried out in the last two month. The results will be presented based on the themes mentioned in the data analysis section: the smart city strategy, the local government, the private sector, and the citizens. Per each theme, several codes were identified as explained in the "coding approach" paragraph. Both the themes and the codes helped structuring the analysis and furthermore, comparing the two cities, London and Milan.

5.1. Smart city strategy

Cities around the world who define themselves as "smart" tend to have slightly different conceptions of what they mean by "smart city". The following paragraphs will describe the definitions and main aspects of Milan and London as smart cities based on the people interviewed.

5.1.1. Definitions of a smart city

According to a project manager of the Municipality of Milan (interview#1) who worked for several years in the Smart City Unit, Milan understands the concept of a smart city as "the concept of the smart city on which the Municipality of Milan follows is that technology is an enabler. Technology is considered a tool to deliver innovative services, but it is not the ultimate goal of the Smart City Strategy of the municipality of Milan".

This type of definition sees new technologies as the means that enable the implementation of the Smart City strategy. Consequently, it is not intended among the results that the city aims to achieve. The goal is to improve the city, its viability, the quality of urban spaces. At the core of the plan, two factors are considered the most relevant: the services and the citizens. For services, technology helps delivering services that are useful to the citizen, to the community and the city as a whole. The citizens are comprehended because they are the ones using public services; they can present requests; and, they can co-design and co-plan some services. Interview#1 also suggests that a relevant and very specific aspect of the case of Milan is linked to the start-up sector and, in particular, to innovation.

On the other side, London presents a slightly different idea of how it pictures a smart city. Interviewee#8 who works as a Smart City strategist for one of London's boroughs explains how the definition adopted by the city is the one presented in the London Smart city plan, called "Smart London Together". The latter definition sees a Smart City as "collaborative, connected and responsive city. It integrates digital technologies and uses city-wide data to respond to our citizens' needs.". Theo Blackwell is in charge of the overall city's digital transformation and came up with the above definition. It can be noticed that two are the most central aspects: data and people. In fact,

London puts a lot of emphasis on the use of data to become smarter, but it does not forget the importance of its citizens.

Therefore, it can be said that technologies play a vital role in allowing cities to become smarter. Although, interviewee#7 who worked for many years in a joint program among London, Milan and Lisbon called Sharing Cities, highlights a contradiction in terms of innovation and public sector. The main idea was to scale up the knowledge and technologies that were already working throughout the cities. By doing this, the project aimed to make a bigger impact and to prove that these technologies were ready to be used but they only needed to be scaled up. The goal was to solve a common issue when dealing with municipalities. It is particularly frequent that local governments get stuck during small procurement processes. This translates in being locked in long-term contracts and small-scale technologies. Sharing cities helped Milan and London in working together in buying technologies on a much larger scale to increase the impact of public policies (Interviewee#7).

5.1.2. The relationship between smartness and sustainability

As mentioned in the literature review, smartness does not necessarily result in sustainability. This is an issue that is taken into consideration in the cities' plans. For the city of Milan, Interview#1 specifically says that technology is not sustainable itself. For example, he thinks that changing all cars' engines with those with new technology would not solve the mobility issue that is present in the city of Milan today. On the contrary, citizens should be smart as well, they should change their habits, by using less automobiles and prefer other means of transports, like bikes, public means etc.

Interviewee#2 who works in a mobility public agency owned by the municipality of Milan explains that they follow two lines. On one hand, they share the objectives that are also in the sustainable urban plan on mobility (PUMS in Italian), like reducing the number of cars per capita. On the other hand, when designing their policies, they always try to involve innovative technologies but keeping in mind the objectives aforementioned. For example, this agency is developing a new software that is capable of measuring traffic through cameras and estimate traffic models throughout the city thanks the information collected. As he claims, the idea behind this innovation is to ameliorate the mobility using smart technologies in order to tackle environmental challenges.

A similar scenario is shown in London as well. The mayor is very much committed on the front of making London more sustainable. He has got personal health issues which make him more sensitive in this regard. There are several measures adopted within the city of London that involves two sides: smartness and sustainability. For example, London has a severe traffic problem. The smog has even caused a child death few years ago. For this reason, the mayor has been trying to tackle this issue. The local government has set up a low emission zone system which is getting bigger and bigger. In addition, it has been pushing for taxing trafficking (Interviewee#8). Interviewee#7 specifically said that within the Sharing cities project "all the participating cities were aiming to lower their carbon

footprint of the demonstration areas where our technologies were implemented". This shows a great connection between the use smartness and the will to become sustainable. They even discussed the fact that the term smartness was not always the best term to use because it resonates with the people of the smart tech industry, but not with the everyday citizen. Since the word smartness sometimes loses the sustainability message, they started to refer to the concept of "green transition" when dealing with the use of technologies used to support the green transition towards net zero emissions targets.

5.2. The role of the local government

Interviewees (interviewee#1, #2, #3, #7, #8) pointed out how the public administration particularly struggles in carrying out innovation. One of the main reasons derives from its functioning. The public sector, in fact, operates through regulations and public calls which make the whole decision-making process slow. Therefore, it would seem that innovation and public sector are two completely different worlds. Although, according to interviewee#1, we should not expect from the public sector the development of new technologies, since this action is not among its priorities. The local administration can still play a role within the Smart city strategy and pursue the good for the public. For example, it can set the legislative framework in which the private sector can operate and advance new technologies. This happened with the car sharing public call and now several companies of car sharing, bike sharing, and scooter sharing are operating within the city of Milan. Something similar is happening with the electric car charging stations. In 2018, the municipality passed a regulation stating the rules that private companies should follow, like the energy power, the locations etc… and then it was up to the private companies to invest in these technologies.

5.2.1. How do the municipalities of Milan and London operate?

As explained in the previous paragraph, the role of the public administration should not be of developer of new technologies, on the contrary, it should be the enabler of such services. The municipality should invest in what it is already present on the market because that is "the tip of the iceberg" as interview#1 defines it. That means that those are the technologies that reached the breakeven point and managed to land on the market. Although, the local administration can still offer some services, but they are the ones considered "standard", like waste management, the public transport etc. Nevertheless, in regard of these services, the municipality operates through what in the Italian context is called "controllate", which are public agencies, owned by the public sector.

In London, different actors are present and are involved in the smart city strategy of the city. Interviewee#8 who works as a smart city strategist for one of the London boroughs well explains the structure of the management of the smart city strategy. The GLA, which stands for the Greater London Authority, is the higher authority in terms of managing the smart city public policy. The GLA has full responsibility on the transport of London and helps to coordinate the 33 boroughs' interests

of the Greater London in smart digital data. They convene meetings, they run the London data store which compares the data of the different boroughs so they can see how well they are performing. In addition, the GLA has to refer to the mayor who has two main responsibilities. The first one involves the police force which is a joint task together with the national government, the home secretary, and the London mayor. Although, this collaboration can result in a difficult activity to carry out due to differences in the political visions of each authority. In fact, currently, the Mayor of London is a socialist whereas the national government is conservative. The second major area where the mayor has responsibility is planning. Nevertheless, Interviewee#8 questions how effective it can be due to the fragmentation of Greater London. Furthermore, a vital part of the whole strategy is the already mentioned boroughs. They are 33 and each manage a part of the territory of the Greater London Authority and possess responsibilities different from the GLA and the Mayor. These local governments can implement policies in areas such as very local transport like roads and parking, adult social care etc. Lastly, the smart city strategy is characterized by four sub-regional partnerships: East, West, Central and South London. They are smaller networks who represent around 8 boroughs each and their main job is to further develop the cooperation on digital work activities.

5.2.2. The issues with the local government

Interviewee#3 works for Legambiente, one of the biggest no profit organizations in Italy. They fight for the respect of the environment, better quality of life and a more fair, just and supportive community. For this reason, they have been collaborating with the municipality of Milan for many years and on several problematics. During this collaboration, interviewee#3 highlights two obstacles for the success of the smart city strategy where one is the effect of the other. The first is that “the municipality engine is just slow; it takes its time to activate. In real life, the public call management is slow once again. That means that it is difficult to positively change some cornerstones”. This leads to a second issue: “we asked the municipality to be a good example as least. Unfortunately, we still do not see the installation of solar panels on public buildings. Private companies are doing it regardless, but we would expect some kind of action from the public sector as well, which is still sporadic”.

Problematics were also highlighted on the London side. In particular, what the interviewees pointed out is a problem of fragmentation (Interviewee#7) and the issue of different political visions among boroughs (interviewee#8). First, implementing a unite plan when 33 actors are involved can be quite challenging. They often adopt different measures which results in a fragmented smart city strategy. For example, London had a big issue, which it has not been solved yet, when many local councils wanted to upgrade their street lighting infrastructure to LED in order to make it smarter and equip it or retrofit it with sensors. Each acted on their own ending up being stuck in different very long-term contracts. Therefore, the outcome when local governments behave in this way reflect on citizens,

who encounter different smart systems when driving from one municipal area to another. In addition, politics represent an obstacle to the smooth implementation of a comprehensive smart city plan. For instance, Allan (interviewee#8) works for the Greenwich borough who has a labour majority and is next door to a borough which is conservative. This means that the two local governments present different political views on what it is best to make London a smarter city and, consequently, they most likely adopt contrasting policies in this regard.

5.3. The private sector

5.3.1. The relationship between the municipalities and the private sector

Interviewee#2 and interviewee#1 explain the relationship between the municipality and the private sector. they both agree there are constant collaborations, contacts, and agreements between the local government of Milan and private companies. This is what makes smart solutions a success and usable to the public. There are mainly three ways through which the local government deals with the private sector. Firstly, the municipality or public agencies may buy data from private companies. For example, this is the case with TomTom. Secondly, there may be actual collaboration agreements, and this is happening with Strava. The latter actor is willing to share their data with the municipality and the public agencies, who then elaborate them and involve the private company when publishing the results. Finally, there could be public and private partnerships where they work together on a specific experimental system. These usually involve small consortium and are possible thanks to European funds. In particular, Interview#2 mentions that private companies usually approach them because they are aware of the fields in which the public agencies operate. It can happen that directors from the public sector seat in the same panel with private companies at organized events, or public agencies are often involved in what he calls “delegazioni straniere”. A recent meeting was mentioned during the interview, where a Finish delegation came to Milan to discuss about the sustainability of the smart city. In this occasion, private companies were able to present their technologies to the public sector and potentially start a collaboration.

Another relevant example is given by Interviewee#1 who discusses the project called “Sharing cities”. This programme was based on a public-private partnership. The private part included “technical partners” and “industrial partners”, from the small company Esco to the big multinational Siemens. Specifically, these companies have been selected not just because they were bringing a new technology, but mainly due to the fact that they were offering a service. This requirement was essential to involve not just a mere technical solution but a technology that was functional to respond to the objectives of the project. Interviewee#1 admitted that this vision made the project work well.

Finally, the representative from the Non-Profit organization (Interviewee#3) claims that they interact with the municipality and other stakeholders on many issues at different tables regarding the smart city strategy. He states that they try to take part to constructive discourse with the other parts involved

while also being particularly critic sometimes. Milan is selling itself as a “smart city”, but “there is still a lot of work to do in this regard”.

In regard to London, the local government has been squeezed badly due to financial crisis and currently it has to work with half the budget they used to work with ten years ago. Having said that, since innovation costs money, the public sector cannot deliver the same services with less economic resources. Therefore, it struggles to develop new technologies on its own and has to rely on the private sector in this manner. The local government though is required to roll out a more holistic strategy that involves people, infrastructure, and data strategy. This represents a steppingstone to make London a smarter city. On the other hand, private companies are asked to deliver certain public services. For this reason, interviewee#8 calls this type of relationship a transactional or contractual relationship. The local authority has a budget to allocate and strikes contracts with private companies so that they deliver services like waste management, adult social care, and digital connectivity. For example, what happens with fibre is that the municipality will give to the private sector a certain amount of public expenditure and they will invest it in the development of the fibre. Therefore, it can be said that digital connectivity is very much a private sector driven agenda. One exception was mentioned during the interviews: the Greenwich borough. In fact, Greenwich local government has decided to form a joint venture with the private sector. Both of the parties invested a million pound each to pilot this idea of a private and public joint venture to deliver fibre. This partnership was created to solve an issue that occurs when only the private sector is involved. The latter sometimes tends to exclude certain areas and does not deliver the fibre to everyone. On the contrary, the public sector aims to being inclusive and involving as many people as possible in its public policies so that digital connectivity is accessible to all citizens.

5.3.2. The role of the private sector

What came up in the interviewees from Milan (Interviewee#1, #2, #6) is a common vision on the role of the private sector for the implementation of the Smart City Strategy. Private companies are the ones that should work alongside the public sector and develop new technologies within the framework created by the municipality. In fact, they are able to bear the risk of failure that is peculiar when investing in innovation. The chance of not being able to make it to the market is very high, but investors acknowledge this, and they do not let the risk to stop them from investing anyways.

The private sector in the London Smart city context has a similar role. Interviewee#8 who works in the Smart City strategy for one of London’s boroughs explains how the private sector contributes to the implementation of the Smart City plan. First, he claims that private companies are responsible of bringing new ideas on the table and, therefore, to innovate. They are structurally more suitable to take faster decisions which is essential when developing new technologies. For this reason, the public sector relies on them when delivering digital connectivity. The latter sector has indeed a

private sector driven agenda. Second, private companies are the providers of several public services. The public sector allocates a specific budget and with that money they are required to run these services.

Finally, both in Milan and London, the private sector sometimes collaborates in the elaboration of the Smart City strategy. Interviewee#7 who worked for a project where Milan and London where among the participants, tells how private and public partners came together to design and plan a smarter city. The involvement of the privates was beneficial to understand the challenges in the implementation of innovation and thanks to this partnership, mutual learning was possible from both sides.

5.4. The citizens

Citizens are often claimed to be a vital part of the Smart city strategies. They are the recipients of these public policies as well as an actor able to actively contribute to their design and implementation. Nevertheless, it is worth mentioning that their role is strictly connected to each municipality strategy and, therefore, it may vary depending on the context. This section provides some information on Milan and London citizens, the way they are envisioned within the SC plan and their involvement.

5.4.1. The role of citizens in the Smart City strategy

According to Interviewee#1, the citizens usually have three roles within the Smart City Strategy. He mentions that “they can be simply users of the public services; they can be interest bearer in the sense that they can advance instances; and also, they can help you to design some services”. This is the view of the municipality on the role of the citizens as it is the main actor that deals with the public or as they are called “smart citizens”. Although, in regard to what kind of role citizens can play, another aspect is highlighted by Interviewee#2. He explains that data regarding citizens behaviours are extremely important for their work. In particular, they contribute to the success of the digitalization process, and they do it through different ways. For example, from people’s movement flaws, an increasing amount of data will start being collected in order to gather information for the monitoring of noise, traffic, parking etc. Furthermore, through the collaboration with private companies, more than a thousand of sensors will be installed for these purposes with the goal of improving mobility and environment standards.

When talking to people involved in the implementation of the London Smart City plan (Interviewee#7 and #8), they acknowledged that London municipality is very much focused on data, but they agreed that, on the contrary, there should be more emphasis on the aspect of people. Citizens are the ones who make the city, technology is just a tool to make urban space more liveable. In addition, it has been said that the role citizens play is strictly connected on the local authorities, the boroughs. Finally, Londoners are also seen as consumers of public services, actors that have their own

interests, and that can be included in the design of the smart city plan, for example, though consultations.

5.4.2. The ways citizens are involved in the SC strategy

Interviewee#3 mentioned how his non-profit organization is involved in the organization of the civil society together with the municipality. What came up during the interviews is that usually citizens are taken into consideration in two different ways. Both are important because smart city projects need active participation of citizens. On one hand, engagement projects or initiatives are often organized. In these occasions, “an action not only of involvement, but also in some ways of persuasion were required. We were trying to respond to doubts from citizens in regard to the project that was being developed. So, we were trying to be a sort of information point for them.”. This act of involvement and persuasion as Interview#3 refer it to contributed to the energetic requalification of few private buildings. On the other hand, Interview#1 explains how the municipality organizes codesign processes. The number one requirement, essential in order to be an effective codesign, is to include not random citizens but the ones that share interests in the implementation of a specific project. He mentions, for example, that with the project Sharing Cities “the co-design involved the owners of the buildings and the people living there, who were the ones that had to pay for the intervention works in the end. They decided how they wanted to intervene.”. Nevertheless, he admits that such action is not always possible because there are some technical decisions that cannot be based on citizens’ will but need to follow specific rules. It is the case with the bike sharing stations. The latter have certain technical characteristics that allow to place them in specific locations. Therefore, he claims that the action of co-design is “nice”, but sometimes “il clashes with the real world”.

At the central London level, according to Interviewee#8 who works for the borough of Greenwich, there is a lot of consultation with citizens on the real political decisions concerning the municipality. Although, the question is how close local authorities are to their communities and that really depends on the culture of the boroughs whether the relationship is more collaborative, open, or engaging. Critics argue that there is a certain degree of cynicism about the level of consultation on major decisions. When citizens are indeed consulted, it mostly feels like a “thick box exercise”, but the decisions have already been taken. Doubts concern even whether sometimes consultations take place after decisions have already occurred. If the latter was the case, it would be extremely difficult to change political decisions once that have been agreed upon. Therefore, it is not entirely clear how much consultation is real before the local authority decides. For this reason, in London, there is a “degree of criticism of cynicism about how truly consultative local authorities are" (Interviewee#8).

Designing smart cities strategies require a lot of expertise who may be an obstacle in the involvement of citizens. Citizens themselves from both sides (interviewee#5, #6, #9, #10) admit their ignorance on the subject and state that if, on one hand, such decisions should be discussed also with citizens,

on the other hand, practical planning and designing should be completed by experts. Hearing people out could be a useful exercise in order to understand their needs and make smart cities measures more inclusive for everyone but they are particularly complex to put in place, therefore, competent personnel is essential for smart city strategies.

6. Discussion

After having presented what interviewees have discussed about, the next section will focus on testing whether the hypothesis highlighted in the theoretical framework are proved right or wrong. Since each theoretical hypothesis is based on key features of the presented theories, the purpose is to assess which of the two theories proposed in the theoretical framework is more suitable to explain the Smart City strategies of Milan and London. Therefore, the discussion will be divided according to the main theories' features: main values, the role of public managers/officials, the role of citizens and the kind of environment envisioned.

6.1. The values behind Smart City Strategies

In the literature review, two main definitions were mentioned regarding the concept of Smart City. One is more technology-centred, where technology represents the main goal for the Smart city. The second one involves other factors, like sustainability and quality of life for the citizens; the latter can be seen as more citizen- and service- centred. According to the interviews, the way the municipality of Milan defines its Smart City is closer to the second. They talk about how technology and innovation are mere tools to reach higher goals and are meant to serve other purposes. In particular, the core values that are frequently highlighted are the creation of a more liveable and sustainable urban space and the importance of Milan citizens. People involved explained that innovation is nothing if it is not used to make the city a place where citizens enjoy a better lifestyle or if citizens are not as smart. Therefore, on one hand, technology should be implemented to improve the air citizens breath, the mobility within the city, to make the city more accessible for everyone etc. On the other hand, smartness should engage smart citizens who take smart decisions.

London smart city strategy seems slightly more focused on technology, innovation and definitely more concerned about data. Nevertheless, as Milan, London uses them as tools that serve citizens' needs. When discussing the whole London smart city plan, the values that were mentioned the most were: collaboration, connectiveness, responsiveness, citizens, data/digital innovation, inclusiveness, sustainability or green transition. In this context, the municipality cares a lot about developing and implementing new technologies, but it does it in order to improve the urban space where citizens live in. As a consequence, the general London Smart City strategy seems very sensitive to make London smarter but also more sustainable and enjoyable for its citizens.

NPM theory claims that for the public sector, the most relevant values are efficiency and efficacy, therefore:

H1: Values behind the Smart City strategy are mainly the ones of efficiency and efficacy.

Nevertheless, in the design and implementation of the Smart City strategy, the municipality of Milan puts at its core different principles. In the first place, it seems that everything they do is to make the

city more liveable for its citizens. In addition, citizens are sometimes even included as co-designer of certain project. Furthermore, sustainability and inclusivity are mentioned more times than efficiency and efficacy and are at the centre of the Smart City plan. Therefore, H1 does not fit properly with the Milan case study. Similar values are present in the Smart City strategy of London. The goal of the local government is not only to make the city more efficient, but it is sensitive to other aspects of the city, like the people and the environment. When implementing its measures, they try to make them accessible for everybody, but also keeping an eye or regard to the consequences in terms of sustainability. For example, in the borough of Greenwich, private and public sector collaborated in a joint venture so that digital connectivity was developed throughout the borough and reached all citizens. The private component enabled the progress in terms of innovation whereas the scope of the public was to include as many people as possible, something that private companies sometimes are not concerned about.

On the contrary, post-NPM theory indicates other types of values as H5 suggests:

> H5: Values behind the smart city strategy are considered “public” values, such as equity, justice, citizenship.

H5 takes into consideration more social values in respect of economic ones which, in both cases, seems more appropriate. In conclusion, it can be said that the aspect of values is well explained by post-NPM theory.

6.2. The role of public sector

During the interviews, it emerged the incompatibility between the public sector and the field of technology and innovation, which should be the tool to make cities smarter. The reason behind this fact is that they belong to two different worlds. Innovation fits well with the private sector. It requires taking decisions quickly and a high degree of risk appetite. These characteristics are not suited for public administrations as public officials interviewed admitted. In fact, the public sector has the good of the public among its top priorities. In order to preserve it, decision making is often a long process who involve many people and different point of views. In addition, since developing new innovation is particularly risky, the public sector cannot afford to waste public money. Nevertheless, public officials can still be relevant in the design and implementation of the Smart City plan in two ways mainly. First, what has been said during the interviews is that the local government should create the framework within which private companies operate. This is a process that has been showing excellent results. For example, they mention the economy sharing and charging stations frameworks that the municipality of Milan has been designing. These types of legislative architectures enabled the private sector to start operating in the services that were needed for the development of the Smart City, but within the rules of the public sector. Second, the results have shown that the public sector can be involved in collaborations and private-public partnerships. One good example

mentioned from the interviewees is the Sharing Cities project. The latter is a private-public partnership involving Milan, London and Lisbon, private companies, NGOs and citizens. The project aimed at implementing smart initiatives in specific areas of the cities and test their functioning. The ones that produced good performances were then scaled up throughout the city. The London context presents a more complex structure in terms of local government. In fact, there are different governance levels to manage a city of almost nine millions of people. This requires more coordination, and it may create some obstacles to the implementation of the plan as explained in the section “the issue of the local government”. As already mentioned, at the top, the GLA oversees the general Smart city initiative. In addition, at the more local level, boroughs manage specific areas of their territory like streets and parking. To further help with the cooperation among these actors, four network groups have been created. Despite this fragmentation, if we consider the aforementioned public player as a whole, it can be said that their work is to deliver the Smart City strategy within which all the stakeholders involved can operate. They do not act as private managers as their role is particularly distinct from them and share different values. Furthermore, public officials often convene meetings, organize projects with other partners like citizens, private companies in order to draw together the smart city public policy.

Therefore, having discussed the role of the local government, it can be said that H2 does not reflect what is going in the context of Milan and in the context of London either.

> H2: The role of the public officials will be to act as managers, exactly as in the private sector.

Public officials are not seen as the managers of the private sector. They still present two distinct roles in the Smart City strategy. Contrary, H6 appears to better explain the role of public officials in the two case studies.

> H6: The role of the public sector will be to create the smart city strategy and carry out this task together with the civil society (non-profit organizations, businesses, citizens…).

Indeed, the local government is actually designing and implementing the Smart city plan with other actors of the civil society, always having in mind the principles and the priorities of the public sector: the good of the public in particular.

6.3. The role of citizens

Citizens appear to be a vital component of the Smart City strategy of the Milan municipality. As mentioned above, they are thought to carry out four tasks within the plan. First, they are seen as users of public services. Second, they are actors who have opinions and may have interests in how things should run, therefore should be included in the design of the strategy. Third, they are believed to be capable of being designers of public services necessary to improve Milan as a Smart City. Lastly, they were mentioned regarding data. In fact, citizens can be a massive dispenser of personal

data that can be used for smart software and smart apps. Citizens in London cover a similar role as well. They are definitely seen as consumers of public services, but not only. Londoners are thought to be able to participate to meetings with public officials since they have their own interests and needs and can express them in those occasions. In fact, consultations are a method often used at the local level to engage with people and include them in the Smart City strategy. Nevertheless, doubts were expressed about how effective they can be in practical terms. Local authorities seem to organize them as mere “thick box exercise” and sometimes even when decisions have already been taken. Therefore, in London, there is a clear scepticism about how citizens are actually involved in the planning of making the city smarter.

Having said that, it can be understood that citizens hardly only perform the task of being mere costumers in the Smart city strategy as NPM theory would suggest. According to H3:

H3: In the Smart City strategy, citizens serve only as costumers of public services.

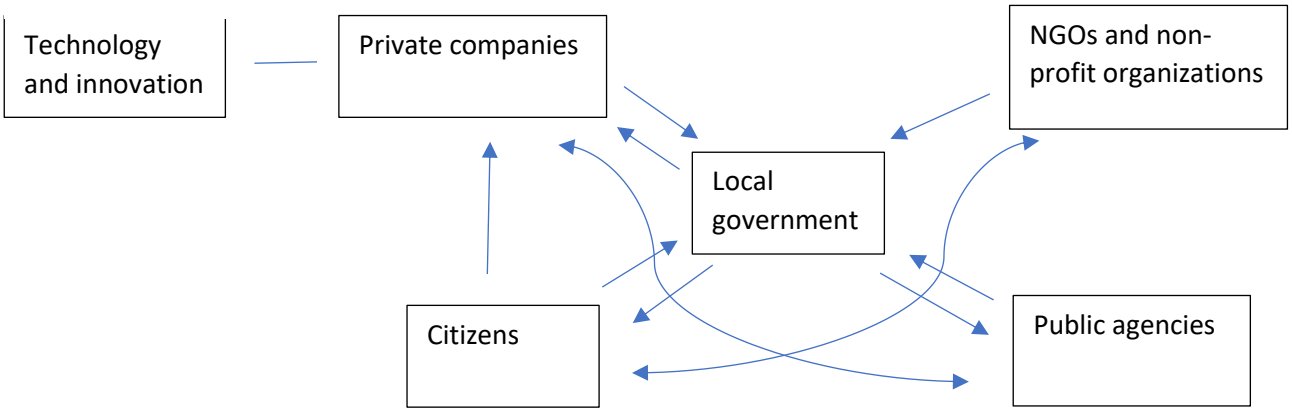
Nevertheless, this hypothesis does not fully capture the whole picture. Indeed, people does not participate as simple consumers to smart public services. In addition, they are capable of contributing through a range of other activities. Therefore, citizens in Milan and London are more than just users of services. For this reason, post-NPM adds a more holistic approach to the role of citizens into the public sector. As hypothesis seven states:

H7: Citizens are able to play an integral part in the creation of the smart city strategy.

Involving people in smart projects is important and, in some cases, essential. Their opinions and their needs are necessary when developing smart solutions. As all interviewees confirm, technology does not necessarily translate into sustainability and inclusiveness. It required to serve people’s desires to make the most out of it. Consequently, understanding their point of views and their needs is a crucial step toward the right implementation of public policies regarding smart cities.

6.4. The environment envisioned in the SC strategy

Figure1 Milan - Environment envisioned



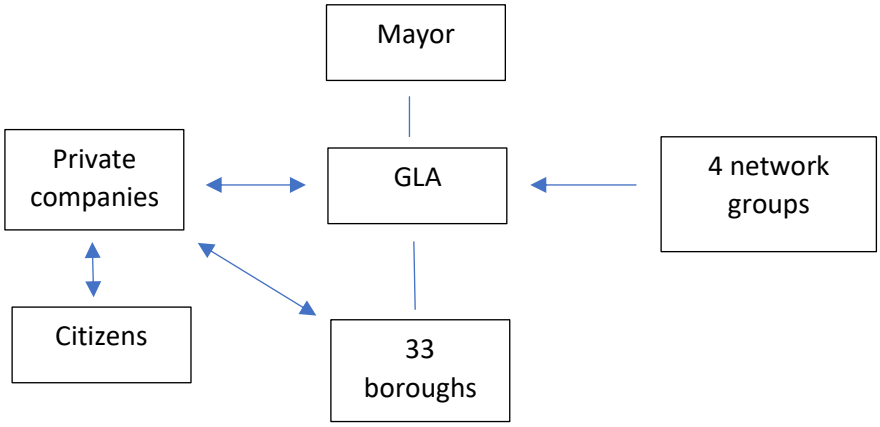
The diagram just displayed shows the interactions and the relationships for the creation and implementation of the Smart City plan in Milan. The picture looks complex and dense of actors. Although, it gives an idea on how different players are operating to improve the smartness of this city.

The local government is placed in the middle because it is responsible to set the guidelines and to give the political direction to everyone involved. In fact, according to the interviewees, the municipality oversees the developing of the Smart City strategy and builds the framework in which the other actors can work. In particular, the framework is useful for the private sector because it allows them to supply the services that the public sector is not capable of providing. The role of the private sector that came up during the interviews is of technology- and innovation-developer. The privates have the means and resources to do so and the public counts on it because it will help the city becoming smarter.

For public services, the local government also relies on public agencies. The administration often uses public agencies to perform certain tasks, giving them the public money to be able to run. In regard to the smart city strategy, they are often appointed to develop and provide smart services. Moreover, as explained in previous paragraphs, public agencies work together with the private sector, and they do it in different ways. Mainly, they interact through collaborations and private-public partnerships, which also showed high degree of success. They collaborate for smart projects, to exchange data and by participating to meetings.

On the other hand, London presents a slightly different conformation of the environment envisioned for its Smart city plan.

Figure2 London - Environment envisioned



Above, it can be seen a figure representing the main actors of the discussed public policy. The public sector is divided in many different players, each with different competences. The GLA is presided by the mayor of London and has responsibilities over transport, policing, economic development, fire and emergency planning. It can deliver policies in these areas. It is also in charge of the overall Smart city strategy who can cover the aforementioned topics. The Greater London comprehends 33 boroughs, each managing smaller portions of population and territory. As already mentioned, they possess different tasks from the GLA, as they are responsible for more local level policies and for the majority of local government services such as schools, waste management, social services, libraries. Obviously, as observed during the interviews, 33 boroughs are a lot and to cope with this issue four network groups were created. The latter carry out coordination activities among the boroughs.

All public actors interact constantly with the private sector when implementing the London Smart City initiative. In fact, private companies have an important role in its implementation. In the first place, they are assigned the delivery of certain public services as explained in the section “the role of the private sector”. In the second place, they are the ones carrying out innovation to develop new technologies to make London smarter. In terms of digital technology, for example, the private sector set the agenda, receiving public money in order to operate. Lastly, public actors also collaborate with the citizens of London. Particularly, they are often involved in meetings and hearings to share opinions and express needs.

Having said that, the pictures just described seem to suggest highly networked environments in regard to the two smart cities presented. In this type of setting, not only the private sector is relevant, but also the civil society is involved and are needed for the success of this public policy. “There is not a smart city without smart citizens” Interviewee#8 said during the interview. Reporting once again hypothesis 4:

H4: The smart city strategy can be implemented through the usage of managerial practices into the public sector; therefore, the public sector is required to present more business-like features.

The latter seems to miss part of the picture as not only the public administration and the private sector should be the only actors. In addition, public sector features have been distinctly highlighted by interviewees and are quite different from the private sector ones. This means that managerial practices are strictly connected to the private sector and should not belong to the public sector. On the contrary hypothesis 8 which states:

H8: The smart city strategy can be created through an integrated approach. Therefore, the environment envisioned is more a networked governance.

H8 seems more realistic because both the smart city contexts of Milan and London present an integrated approach where several players interact forming a networked governance.

6.5. A comparison between the two theories and case studies

After presenting the discussion around the hypothesis, a table will be displayed in order to summarise the main points of the two theories and make it clear which one fits the best with the case studies of Milan and London.

Table 3 Comparison between the theories and the case studies

Hypothesis	Theory	Milan	London
H1: Values behind the Smart City strategy are mainly the ones of efficiency and efficacy.	NPM	Other values are also contemplated in the Milan SC strategy.	Other values are also contemplated in the London SC strategy.
H2: The role of the public officials will be to act as managers, exactly as in the private sector	NPM	Public officials and private managers have two distinct roles.	Public officials and private managers have two distinct roles.
H3: In the Smart City strategy, citizens serve only as costumers of public services.	NPM	Citizens do not only serve as costumers but have a bigger role.	Citizens do not only serve as costumers but have a bigger role.
H4: The smart city strategy can be implemented through the usage of managerial practices into the public sector; therefore,	NPM	The public sector relies on the private sector for innovation but does not adopt	The public sector relies on the private sector for innovation but does not adopt

the public sector is required to present more business-like features.		business-like features.	business-like features.
H5: Values behind the smart city strategy are considered "public" values, such as equity, justice, citizenship.	Post-NPM	Milan SC strategy cares about its citizen, innovation and sustainability.	London SC strategy cares about its citizen, innovation, data and sustainability.
H6: The role of the public sector will be to create the smart city strategy and carry out this task together with the civil society (non-profit organizations, businesses, citizens…)	Post-NPM	Milan SC initiative is designed by the public sector in consultation with the civil society.	Milan SC initiative is designed by the public sector in consultation with the civil society.
H7: Citizens are able to play an integral part in the creation of the smart city strategy.	Post-NPM	Citizens participate to the Milan SC strategy through engagement and co-design.	Citizens participate to the Milan SC strategy through consultation.
H8: The smart city strategy can be created through an integrated approach. Therefore, the environment envisioned is more a networked governance. When implementing their smart cities' strategies, Smart cities will consider public values like equity, justice, citizenship using a networked governance approach. That means that municipalities will deal with all parts of civil society, from citizens to businesses and non-profits.	Post-NPM	It is proven that the environment envisioned is a networked environment where a lot of actors interact to make Milan smarter.	It is proven that the environment envisioned is a networked environment where a lot of actors interact to make London smarter.

Both theories aim to describing the values of the public sector, the role of public officials, the role of citizens and how the public sector's environment should look like. As the table shows, hypothesis based on post-NPM are more accurate in both case studies. In fact, they are better at explaining the

reality of Smart City strategies in Milan and London. First, NPM claims that the most important values within the public sector are efficiency and efficacy. Although, this is something which does not reflect the reality. London and Milan smart city strategy are mostly focused on social and political values such as citizens, sustainability, and innovation. It is true that they are trying to make services more efficient, but they are exclusively doing so in order to create a more liveable and greener city for their citizens. Therefore, NPM theory looks outdated whereas post-NPM theory manages to adopt a more holistic approach.

In addition, NPM pictures public officials as private managers and citizens as costumers of public services. As it has been proved during the interviews, public officials and managers of the private sector have got two clear-cut positions in regard to smart city plans. On one hand, public officials serve as creators of public policies and set the framework for other stakeholders to work in. On the other hand, companies are seen as innovation- and technology-developers. Furthermore, citizens perform a much bigger role than mere consumers. They are included in both strategies as co-designers. As a consequence, post-NPM is again more accurate in regard to these aspects.

Lastly, NPM imagines a public sector with business-like features. On the contrary, post-NPM envisions a networked environment where several actors work together to pursue a common goal. What the data collected have shown in London and Milan is an integrated approach for smart city initiatives. The public sector allocate money to private companies to perform public services and to develop new technologies so that cities can become smarter and more sustainable. Moreover, citizens can contribute by expressing their interests and needs, and even participate in the design of the policy.

In conclusion, to answer the research question of which theory fits best with smart city strategies, it can be confirmed that NPM presents a weaker explanatory power compared to post-NPM. The latter seems to adopt a holistic approach who is well-suited for this type of public policy.

7. Conclusions

7.1. Research question and sub-questions

Based on the results and the discussion presented in previous sections, it is now possible to give and answer to the research question and sub-questions of this paper. In particular, the research question which asks: “Which public management theory best explains Smart Cities strategies?” aims to investigating the explanatory power of New Public Management and Post-NPM. According to the data analysed in the results section and the reasons explained in the discussion paragraph, post-NPM presents a higher explanatory power in all its aspects. Therefore, it can be said that this theory fits best at explaining Smart Cities strategies.

Replying to the sub-questions helps to comprehend why post-NPM is a better theoretical explanation than NPM. In regard to the first, two sub-questions were:

- “Can public officials and other stakeholders be co-creators of the smart city strategy?”
- “Do Milan and London adopt an integrated approach for their SC strategy?”

As proven in the results and discussion, public officials and other stakeholders like private companies and citizens actually work together to design and implement smart cities strategies both in Milan and London. In addition, local governments organize meetings, public hearings in order to include the private sector and the citizens in the decision-making process of their smart city plans. This is the reason why it can be said that Milan and London are using an integrated approach. A networked governance approach is resulted to be key when delivering this local public policy.

On the other hand, sub-questions related to NPM are:

- “Do public officials act as private managers and citizens as costumers in the Smart City strategy?”
- “Does the public sector use managerial practices when implementing public policies?”

According to the data collected, public officials do not act as private managers. In fact, their positions are distinctly marked, with different tasks and values. They provide the framework within which other stakeholder can operate in the Smart City strategy. In addition, they care for the good of the people, to make the city smarter and sustainable for their citizens and to support innovation in the private sector. That said, the second sub-question for NPM can be answered. Local governments are not seen using managerial practices in smart city projects, but they create partnerships, collaborations, and support engagement with the citizens as main tools to implement their Smart City strategies.

7.2. Policy recommendations

Conducting interviews allowed collecting a great amount of data about Smart City strategies. Some interviewees were particularly critic towards them and some constructive suggestions on what could be done better emerged.

Concerning London, the biggest problematic that has been frequently brought up was the issue of fragmentation. This is something that does not allow London to have a holistic smart city strategy since boroughs have several competences and sometimes act in different ways. When this happens, the result is a multitude of different technologies and systems which may confuse people who travel from one borough to another. Overcoming fragmentation among the political actors in the smart city field should be one of the highest priorities of the local government of London. Secondly, the GLA which represents the entire territory of the 33 London boroughs is particularly focused on data in its policy paper. Nevertheless, each of them misses their own strategy in terms of data regulation. The only exception is the borough of Greenwich which has a data strategist and a data team. Although, it is essential to provide them in each borough and be coordinated in this regard in order to deliver a logical smart city plan. Thirdly, consultation in London should be more inclusive and taken for real. Often it is performed after decisions have already been made. On the contrary, consultation is a process that should be carried out before, otherwise it loses its importance.

Relating to Milan, two main suggestions can be proposed. The first is about the condominium meetings (“assemblee di condominio” in Italian) which are regular meetings organised by the administrator of a building with the owners of the apartments forming the building. Frequently, these assemblies represent an obstacle when performing innovation. In fact, in these contexts, decisions taken by unanimity are mandatory to bring any changes to the building. So, when the municipality wanted to make some edifices more energy efficient, the plans were stopped by few people not agreeing with them. In the Italian scenario, not only in Milan, housing innovation is often hindered by these condominium mechanisms. Local governments should take them in consideration when designing smart cities projects and try to overcome them.

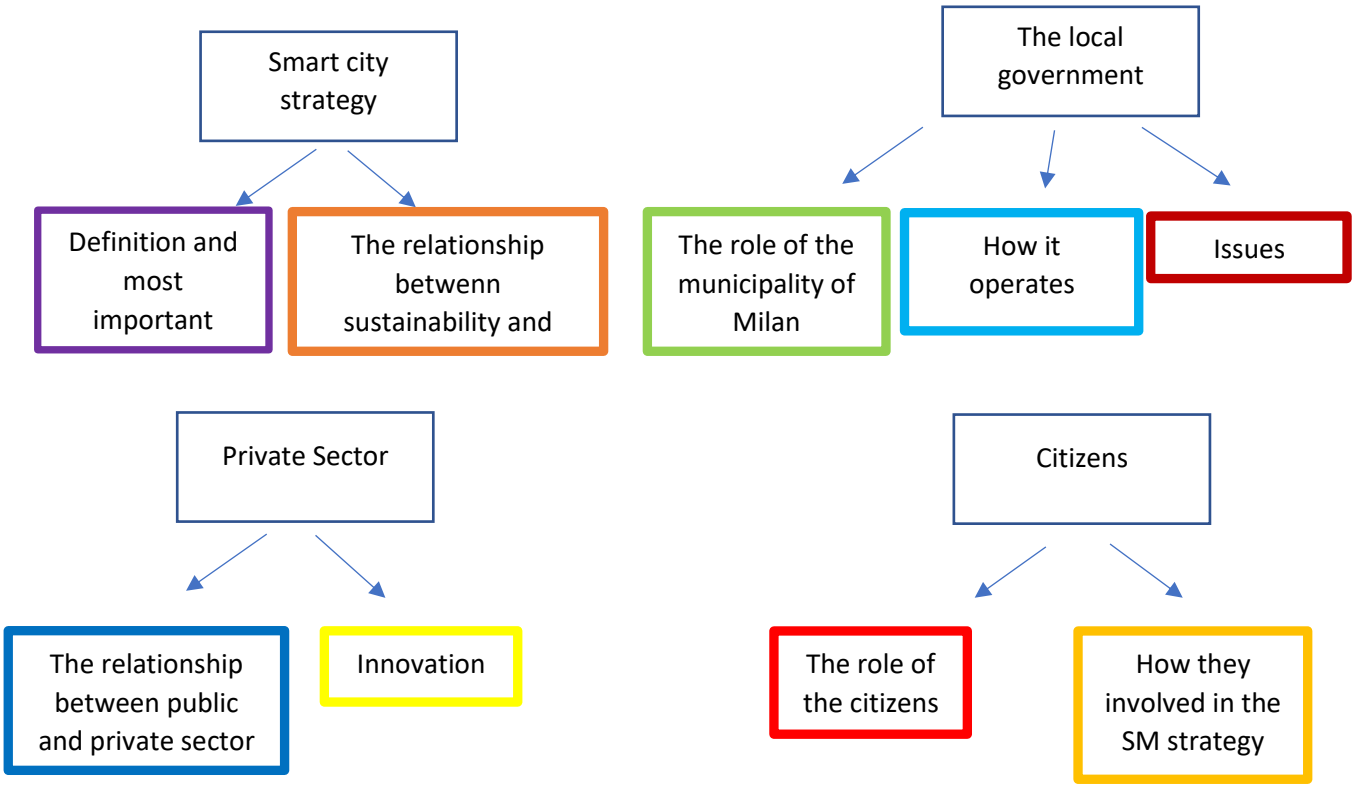
Moreover, the municipality of Milan was criticised for not setting the good example in terms of energy savings. It recommends privates and citizens to adopt new technologies to become energy efficient, but they are not doing it in the first place. For example, many public buildings are lacking solar panels which is something that, nowadays, can be installed easily and at a decent cost. Although, decision-making is still particularly slow and prevent strategic changes in this regard.

Finally, London and Milan share some common issues which were appeared in the interviews from both sides. As an example, smart cities often experiment pilot projects, which are small-scale projects conducted to evaluate how successful they can be prior performing them on a much bigger scale. People from both local governments highlighted some very interesting projects in this sense,

but in some cases, they did not scale them up to the whole city. The risk with smart city pilot project is that municipalities struggle to go beyond them, and they last a short time of period and in specific areas of the city. For this reason, it is difficult that they have a real impact on the goals the public sector has in mind. Therefore, local administration should be more concerned in implementing pilot projects and when they turned out to be successful should be adapted to the whole city. In order to make this possible, a great degree of transparency is required. If pilot projects go wrong, people involved should ask themselves why, what kind of issues emerged. Showing results is also important when pilots go well as the next step should be to scale them up to the whole city. Transparency is a learning process and governance should be all about being transparent to be able to make cities smarter and more sustainable. Another common problem encountered in both cities regards the organization of their urban space. Talking with citizens was useful to understand their experience of living the urban space and its mobility. All of them mentioned how difficult it is to be a biker due to the scarcity of bike lanes. Using the bike is extremely dangerous when this kind of infrastructure are lacking. People do not feel safe because of the proximity with cars and accidents can easily happen, especially when congestion is something both cities are struggling with. For example, Milan is one the European cities with the highest rate of cars per family according to one of the interviewees. As a consequence, it would be smart to rethink the urban space by building more infrastructure and incentivise citizens to use other means of transport instead of their car.

8. Appendices

Figure 3 Coding Tree



Interview guide

LONDON/MILAN SMART CITY INITIATIVE

- ☐ How does the London municipality define a “smart city”?
- ☐ What are the main areas in which the city is investing the most?
- ☐ What is/are the goal(s) that the municipality has managed to succeed in? what, instead, is planning to reach in the future?
- ☐ What is the relationship between smartness and sustainability within the city plan? Does smartness necessarily mean sustainability? And how?
- ☐ What do you think it is the biggest change that the strategy triggered? Where do you see the strategy had an impact on? (People, streets, mobility, tourism, etc…)

THE LOCAL GOVERNMENT

- ☐ What do you think is the role of the municipality in implementing the smart city plan?
- ☐ What values does the municipality care the most when designing the strategy?

- ☐ Reading the policy paper regarding the smart city program, I noticed an integrated approach, involving networking with other stakeholders. Would you agree with this statement and why?

STAKEHOLDER

The private sector:

- ☐ How is the private sector involved in the smart city plan? Can you mention some projects?

Citizens:

- ☐ Are citizens contemplated in the implementation/creation of the smart city? what is their role? Can you mention some projects/initiatives?

List of references

Adcroft, A. &. (2005). The (Un) intended Outcome of Public Sector Performance Measuremen. *International Journal of Public Sector Management, 18, 5*, pp. 386-400.

Ahvenniemi, H., Huovila, A., Pinto-Seppa, I., & Airaksinen, M. (2017). What are the differences between sustainable and smart cities? *Cities 60*, 234-245.

Albino, A., Berardi, U., & Dangelico, R. (2015). Smart cities: definitions, dimensions, performances, and initiatives. *Journal of urban technology 22(1)*.

Ballas, D. (2013). What makes a happy city? *City 32*.

Barrett, J. (2021). London pips European rivals to smart city. *City A.M.*

Bekkers, V., & Homburg, V. (2005). E-government as an information ecology: background and concepts. In V. Bekkers, & V. Homburg, *The information ecology of e-government* (p. 1-19). Amsterdam: IOS Press.

Bekkers, V., & Homburg, V. (2005). *E-government as an information ecology: background and concepts.* Amsterdam: IOS Press.

Benington, J. (2011). *Public Value: Theory and Practice.* New York: Macmillan.

Berardi, U. (2013). Clarifying the new interpretations of the concept of sustainable building . *Sustainable cities and society*.

Blatter, J., & Haverland, M. (2012). *Designing Case studies. Explanatory approaches in Small-N research.* Palgrave macmillan.

Bouckaert, G., Peters, B., & Verhoest, K. (2010). *The co-ordination of public sector organizations: shifting patterns of public management.* Basingstoke: Palgrave Macmillan.

Bouckaert, G., Peters, B., & Verhoest, K. (2010). *The Co-ordination of public sector organizations: shifting patterns of public management.* Basingstoke: Palgrave Macmillan.

Brown, J. (2019). London is still the UK's golden goose - and that needs to change. *The Guardian*.

Bryman, A. (2012). *Social Research Methods.* Oxford: Oxford University Press.

Bryson, J. M., Crosby, B., & Bloomberg, L. (2014). Public Value Governance: Moving Beyond Traditional Public Administration and the New Public Management . *Public Administration Review, Vol. 74, Iss. 4*, 445-456.

Buttolph Johnson, J., Reynolds, H., & Mycoff, J. (2016). *Political Science research methods.* SAGE.

Caragliu, A., Del Bo, C., & Nijkamp, P. (2011). Smart Cities in Europe. *Journal of urban technology*, 65-82.

Chiesa. (2022). *ciao.* alba.

Deem, R., & Brehony, K. J. (2005). Management as Ideology: the case of "New Managerialism in Higher Education". *Oxford Review of Education, 31, 2*, 217-35.

Diefenbach, T. (2009). New public management in public sector organizations: the dark side of managerialistic "enlightenment". *Public Administration Vol. 87, No. 4*, pp. 892-909.

Dror, Y. (1971). *Design for policy sciences.* New York: Elsevier.

Dror, Y. (1971). *Design for policy sciences.* New York: Elsevier.

Dunleavy, P. J. (1985). Bureaucrats, budgets and the growth of the state. *British Journal of Political Science 15*, p. 299-328.

Dunsire, A., & Hood, C. (1989). *Cutback management in public bureaucracies.* Cambridge: Cambridge University Press.

Ebhardt, T., Lepido, D., & Sirletti, S. (2020). Why the fate of Milan will be the fate of Italy. *Bloomberg*.

Fisher, T. (2014). Public Value and the Integrative Mind: how multiple sectors can collaborate in city building. *Public Administration Review 74(4)*, 457-64.

Gabriel, Y. (1999). Management Administration and Critique in the 21st Century? *Administrative Theory & Praxis* , 402-8.

Haarstad, H. (2016). Constructing the sustainable city: examining the role of sustainability in the "smart city" discourse. *Journal of environmental policy and planning 19(4)*, 1-15.

Hood, C. (1991). A public management for all seasons? *Public Administration Vol. 69 Spring*, p. 3-19.

Hood, C., & Schuppert, G. F. (1988). Delivering Public Services in Western Europe: Sharing Western European Experience of Para-Government Organization. *SAGE Modern Politics Series Volume 16*.

ICity Rank. (2019). ICity Rank 2019: Milano, Firenze e Bologna sono le città più smart d'Italia. *ICity Rank*.

ICity Rank. (2021). ICity Rank 2021: Firenze, Milano, e Bologna le città più digitali d'Italia. *ICity Rank*.

Jorgensen, T. B., & Bozeman, G. (2007). Public Values: An inventory. *Administration & Society 39(3)*, 354-81.

Kernaghan, K. (2003). Integrating Values into Public service: the values statement as centerpiece. *Public Administration Review 63(6)*, 711-19.

Lehnert, M., Miller, B., & Wonka, A. (2007). *Research design in political science: how to practice what they preach.* Palgrave Macmillan.

Marsal, L., Colomer, J., & Meléndez, J. (2014). Lessons in ruban monitoring taken from sustainable and livable cities to better address the Smart Cities Initiative. *Technological forecasting and social change 90*.

Meynhardt. (2009). Public Value Inside: what is public value creation? *International Journal of Public Administration 32(3-4)*, 192-219.

Moore, M. H. (1997). *Creating Public Value. Strategic management in government .* Harvard University Press.

Moore, M. H. (2013). *Recognizing Public Value.* Cambridge: Harvard University Press.

Newton, J. (2003). Implementing an Institution-wide learning and teaching strategy: lessons in managing change. *Studies in higher education 28, 4*, 713-27.

Ney, S., & Verweij, M. (2015). Messy institutions for wicked problems: how to generate clumsy solutions? *SAGE journals*.

Osborne, S. P. (2010). *The New Public Governance? Emerging Perspectives on the Theory and Practice of Public Governance.* New York: Routledge.

Our World in Data. (2018). *Urbanization projection by 2050 in Europe.*

Pollitt, C. (1990). *Managerialism and the Public Services–The Anglo-Saxon Experience.* Oxford: Basil Blackwell.

Pollitt, C., & Bouckaert, G. (2017). *Public Management reform. A comparative analysis - into the age of austerity.* Oxford: Oxford University Press.

Pollitt, C., & Bouckaert, G. (2017). *Public management reform. A comparative analysis into the age of austerity.* Oxford: Oxford University Press.

Rhodes, R. A., & Wanna, J. (2007). The limits to public value, pr recuing respposable government from the Platonic Guardians. *Australian Journal of Public Administration 66(4)*, 406-21.

Smith, R. F. (2004). Focusing on Public Value: Something New and Something Old. *Australian Journal of Public Administration 63(4)*, 68-79.

Stoker, G. (2006). Public Value Management: A New Narrative for Networked Governance? *American Review of Public Administration 36(1)*, 41-57.

U.N. (2019). *Urbanization projection by 2050.*

World Bank. (2020). *Urbanization rate in the world.*