Article

New digital platforms versus old Urban Planning process (in Italy) under initial post-pandemic effects.

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Abstract: Current acceleration in digital innovations, the unexpected challenges in our social interactions, open access to virtualization, huge limitation in our physical spaces, and unpredictable changes in our old lifestyles - as originated from the COVID-19 global pandemic in 2020 - continue to provide us with a framework, rapidly updating under our eyes, of the modifications our world is undergoing by pursuing into the "new digital age". Or, as many scholars say nowadays, into the new normal! These are shared and deep changes that, regardless of their permanence or temporariness in the time, concretely stress, ever more greatly, their "own" effects on how ideally a city should function. Forcing us to reflect on the real ability to achieve choices and visions for the future by taking vantage from the new digital platforms. In the pages of this article authors, through different eyes but sharing an early response to the matter of new Governance, explore the theme of a radical change of those already consolidated paradigms and, therefore, of the innovations that are transforming the way we understand our society and its technologic advancements, economics, and culture, as defined through dimensions of time and space. This article identifies a methodologic vision for acquiring a more democratic and participatory (inclusive) dimension in the newest configuration of contemporary cities, the new smart city, and in the possible innovations in reading the common sentiments and wishes through the new digitalized world. The analysis investigates how ICT is altering the meanings/ideas of "urban planning", driving us toward a more effective "governance" through a citizen-centred digital approach. Indeed, city governance's success must be measured based on the "listening capacity" of the inhabitants and the facilities that we are capable to provide to citizens. "Sentiment Analysis" tool is tested as a useful tool to achieve these aims.

Keywords: Smart City; Urban planning Italy; Governance 3.0; New Digital Platforms; Sentiment Analysis, Pandemic Urban Effects.

1. Introduction: the new role of digital platforms

The development of digital technologies applied to urban planning can contribute to modify the usage patterns of the city and the governance processes of urbanized territories, whereas the spatial effects on planning are still mainly linked to analogical instruments and physical

processes. Furthermore, the reduction of both distance and time necessary to evaluate the effects of the applied digital practices stand in contrast to the decrease of time and the spaces dedicated to physical encounters, such as they have been reshaped for more than one year, due to the global post-emergency condition and its current related pandemic urban effects. Indeed, whether on one side we are experiencing those set of not-medical answers as expressed in the social and spatial limitations; on the other hand, new -or refurbished- Digital Platforms have hugely accelerated and expanded our social and spatial virtualization by amplifying the networks of our relationships (any kind of them) thanks to the given answers and the "usual" availability and spreading of devices and sensors. In other words, new data fluxes are adding to the traditional analogical fluxes of both people and goods, and both fluxes together made more complex the current framework of understanding the urban organization and management. This thanks also to the establishment of new digital practices which attempt is to go beyond the reductive sensory system approach (quantitative path) in search of a more humanized interpretation (qualitative path). Also considering that technologies (in particular, the digital ones) may generate futures with no roots -where upgrading technical implementations produce heaps of undeletable rising residues which hide the past [1]- one might feel the threat of an overly technical approach, even more, when it extends its inherent necessity in the planning of its obsolescence to the city and the society [2]. Without falling back to the Luddite radicalism[i] [3-4], the extension of digital technology, even in the city planning field, are renovating twentieth-century anxieties, especially when it threatens in imposing a total control of functional data produced by the society and the individuals. The hypermnesic intent of leaving nothing out and of memorizing everything reminds us Funes, the known Borges' character, whose unsustainable precise memory, intended as vaster waste storage[5], is being dangerously updated by the global digitalization, which is giving an economic value to data through the neo-liberal big data concentration [6]. Besides, the evolution, the free availability and spread of "personal sensors" technology introduces new enforceable areas associating themselves with the human in its physicality [7]. In this way, relational possibilities expand, as anticipated in the visionary drifts on post-human singularities [8] and faced nowadays through current due-to-pandemic experience but risking becoming foreshadowed in "replacement mode" of reality [9].

This is, therefore, a direction in new issues scientific exploration that put a strain on the closer relationship between technological innovation and development, which allows to re-modulate building and urban cycles through continuous relationships updating and continuous value verification which can be assessed through open data management platforms [10], in favour of practices linked to the traditional settlement physicality, to the centrality of building volumes, urban fabrics and open spaces [11]. Consequently, a new reciprocal relationship is pushed-on among the city, human society, and technology, through a new citizenship deal. As already foreseen in the near past times into many European

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[i] The Luddites were a secret oath-based organization of English textile workers in the 19th century, a radical faction which destroyed textile machinery as a form of protest. The group are believed to have taken their name from Ned Ludd, a weaver from Anstey, near Leicester. They protested manufacturers who used machines in what they called "a fraudulent and deceitful manner" to get around human standard labor practices.

programmes and also implemented within the Urban Agenda in Italy [12].

Then, digital city-management through the interconnection of instruments (personal devices, sensors, apps, interfaces, platforms), as well as of objectives and actions promoted by the public and private bodies (companies, communities, individuals) can really help to find new competitive advantages by pursuing processes of systematization of knowledge strictly connected to the city managers policies [13].

By summarizing, digital technologies are redesigning new conceptual keys in which the traditional static language of old urban planning tools can offer the "hook" to current contemporaneity through the increase in the use and the huge spreading of new interfaces of geo-data. This may allow new objective predictions and analysis also thanks to continuous circular verification of knowledge as applied by exploring the general unconscious "sentiment" of people, through the anonymous data-collection and without any direct interference with it. Even if the efficiency and effectiveness of such innovation have to be weighed against ethical, legislative, legal, and procedural burdens yet.

Therefore, the "sentiment" analysis, already developed into other field but easily exportable within the urban discipline [14], it may be considered as the onset of hybrid practices where the digital and the analogical find a compromise to make the "urbs" more attractive and inclusive, while the "civitas", connected to the Internet, can contribute to optimizing the services, of the "polis" and to a new social/spatial re-organization. Aristotle's thought, according to whom the city is a political thought translated in spaces, is thus actualized by considering that the contemporary city is still currently a "scattered totality" [15] but nowadays held together by the sudden digital acceleration post-2020 effects.

2. Materials and Methods: conventional old urban planning process in Italy and a new rising perspective

When we talk about urban planning, in Italy, we still think of the "General city Plan" (acronym: PRG) so as if the physical, immaterial, and virtual transformations of the territory were governable, still exclusively, through conventional analogical land-use planning, that legacy of those - controversial but the winner - modern movement's principles and ideas of the city [16]. In its original purpose, urban planning was not only the practice of regulating land-use but a vaster set of practices: those of continuous and conscious change in the state of both the land and the city [17]. These practices are implemented, with different degrees of awareness, by different urban actors; among others: the politicians, the individual citizens, the city managers, the representatives of civil society, the economic actors, both the formal and informal groups of interest, concerning some general or niche topics, etc.

The complexity of social systems has accentuated the interdependence of local actors and weakened the representation of parties and trade unions, while direct forms of social representation have been strengthened, such as neighbourhood committees, environmental movements, consumer groups, youth movements, non-governmental organizations, third sector producers and others that pursue specific objectives that aim to influence territorial government policies. The participatory urban planning implies that local institutions are oriented towards a new concept of territorial governance that tends to involve all the actors (governance) following an open, adaptive, and reversible system model. At the traditional

venues of the elected as municipal, regional and district councils, formal and informal forums for comparison and orientation can be added, such as social roundtables, neighbourhood laboratories, direction boards, strategic plans, which aim to directly compare the territorial interests at stake, subsequently delegating to representative democracy the task of acknowledging or rejecting the indications taken (bottom-up approach).

Since the 1990s, many of the European cities have bet on shared planning, shifting the attention towards the art of listening [18] the different urban actors involved: "Urban planning thus becomes an important opportunity to publicly discuss the political choices" [19]. The question that urban designers and city administrators have been asking themselves, in an increasingly pressing way in recent years, is whether spatial planning and urban governance can be participated in, and how.

Spatial planning and territorial governance would represent an opportunity for a cultural, and not just political and economic, debate on the future vision of the city and its territory. Formally, in Italy, most of the codified spatial design procedures guarantee citizens the possibility of presenting post-observations about the undergoing plan, but almost always in the last phase following the drafting of the final project. It is therefore a form of closing consultation, after the identification of both the plan's guidelines and even the drafting of the same plan. Without prejudice to the guaranteed footstep in terms of citizens' rights, the most enlightened administrations have often noticed those limits of the normative process in the level of effective involvement of the "last users" of any urban transformations, sometimes by experimenting, with spontaneity and self-regulation, adaptive forms of deliberative participation at the city scale.

Although most of the European practices - labelled as pioneering cases in terms of effective participation in the transformations of the city by citizens - are very different from the standard procedures envisaged in Italy by the conventional urban instrument, the PRG; the point should be emphasized that the participatory approach to governance can also be expressed within most of the current regions' legislative frameworks. Indeed, the current model of participation in urban and territorial planning has progressively shifted over the last twenty years from representative democracy to deliberative democracy.

In western contemporary democracies, a limited but growing number of public choices is made through processes that show remarkable similarities to the ideal situation, such as described by the theorists of deliberative democracy. To refer to these practices, terms such as «concertation», «partnership», «participation», «consultation», «governance» are usually used.

This is a normative model, proposed by political philosophers, which sets out the conditions that must be met for a "good" democratic process to take place.

The conditions are essentially two: the first is that all those involved in the consequences of the decision might take part on an equal footing; the second is that the interaction between the participants might be based on comparing impartial topics.

Institutions can approach deliberative participation essentially in two ways: the first is to release a real proxy, leaving the solution of the problem/s to the direct negotiation between the subjects involved and resuming, in some ways, the options that will arise from this comparison; the second is to attribute a purely advisory value to the results of the

comparison, by reserving the last word, but by binding it, in some way, "dangerously" to those results.

2.1. Participatory planning

At this point one might ask why institutions give up, partially or temporarily, to resolve the issue according to the canonical procedures, choosing to play the role of promoters of a confrontation and guarantors of its correctness. This happens when they understand that they do not have enough strength or legitimacy to resolve and to manage the dispute, or to find a satisfactory mediation for all the parties. When they fear, that is, they are unable to find favour by some social groups and in any case when they intend to manage or prevent conflicts.

Other forms of participation, consolidated in practice, are those that aim to find ideas and suggestions from those directly involved, obtaining the non-secondary effect of the empowerment of local actors, fundamental to build a common strategic horizon and to engage all actors in the final success of objectives.

These forms of local concertation have become widespread over the last twenty years, especially in Italy, with the "Patti Territoriali", the strategic planning and participatory urban planning.

In these cases, the involvement of a plurality of actors in the definition of plans, programs or projects, also derives from the need to establish integrated policies - i.e.: to tackle complex problems - from multiple points of view at the same time, overcoming the separation between disciplines or between administrative sectors. The model of deliberative democracy is essentially based on two crucial aspects that determine, depending on how they are interpreted in practice, the full success of the model: inclusion and deliberation.

2.2. Inclusion

"A deliberative procedure is legitimate only if all the interests, opinions and positions present in the company are included in the deliberative process" [20]. But how can this noble prescription really be put into practice? Perhaps because a complete application is impossible in practice and probably neither desirable[ii]; but it is not impossible to imagine approaching it with some grades of approximation.

Based on the analysed experiences, inclusion is not presented primarily as a democratic value, rather as a guarantee of legitimacy and effectiveness. The principle of inclusion can be guaranteed through two different methods: by drawing lots or by involving stakeholders. The first methodology aims to make plain citizens discuss specific issues of public interest, offering them the opportunity to meet with experts. Sometimes the objective is simply to detect the opinions of the participants and to show how they have changed during the deliberative process; this is the case of deliberative opinion polls proposed and implemented by James Fishkin (1991, 1997) [21][iii]. The advantages of this technique are that it is

[ii] Because an overcrowding may compromise the quality of the resolution.

[iii] Other experiences instead have the more ambitious goal of providing recommendations to policymakers. The planungszelle (Garbe, 1986; Dienel et Renn, 1995) have been organized for years in Germany to allow citizens to express themselves on specific planning problems, mainly on a local scale. The "citizens' juries"(Smith et Wales, 1999) have been tested in various countries (United States, Great Britain, Spain, Australia) on various issues of public importance. The "consensus conferences" (Joss, 1998; Boy et other, 2000;

not discretionary, it allows the participation of those who have not yet developed an idea on the subject in question and therefore can start profitable and open dialogic processes.

On the other hand, however, this formula, although it manages to guarantee the distribution of preferences in the population, does not represent its intensity and could even exclude the most extreme points[iv]. Finally, on a statistical level, the sample used (usually 15 to 20 people) cannot be representative.

The second methodology[v] consists of constituting an assembly composed of representatives of the main points of view.

In this technique, even the most extreme positions, which can be compared with the opposite ones, can find a place. In these cases, the dialogue could not succeed but, a solution reached in such conditions would be endowed with a very strong legitimacy. For example, the "Patti Territoriali" are often accompanied by "territorial animation" activities from which they try to understand which local users can be involved in the consultation. Strategic plans are often preceded by various types of diagnostic investigations, aimed at ascertaining the nature of the problems and the identity of the possible participants. Urban redevelopment projects begin to take shape, mostly through research-listening surveys managed through different techniques that focus on the themes and users with which to work [22].

But also, the active research of the participants can, in turn, not be enough, because there may be interests that have no chance of making their voice heard anyway. It is above all the case of the concern of future generations, which however should be considered in any project that has environmental implications, or almost all.

2.3. Deliberation

According to theories of deliberative democracy, a decision is legitimate if it is the result of "a dialogic process in which the participants compare their reasons in order to resolve problematic situations" [23], this type of technique in Italy is called concertation. The consultation tool is used, for example, for the definition of a plan[vi]. However, this is not an aggregation process; the use of majority voting is the point of failure of the technique. In these cases, they prefer to deal with it to reach a shared solution[vii]. In some areas, rather than arriving at the vote, one even prefers to dissolve the table.

"Negotiate and argue" [24] they are two distinct processes on the analytical level. In negotiation, the parties tend not to need to justify their positions, rather they try to implement a "balance of their interests" and to give life to a compromise. In the deliberations, the parties reach instead to a "rationally reasoned consent". The negotiated agreement (or

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Pellizzoni, 2002) aim instead to detect the reasoned point of view of ordinary citizens on controversial technical-scientific issues.

[iv] It is no coincidence that the experiences related to the use of this technique have generally ended with reasonable and balanced recommendations.

[v] Stakeholder's participation.

[vi] The term, very generally, indicates that the parties will try to reach an agreement.

[vii] The strategic plans and the "Agenda 21" processes have a composition sufficiently varied to allow communication based on topics, but they are strongly exposed to the risk of an opportunistic integration, in which the final result from the juxtaposition of the requests formulated by all the participants. Territorial pacts and other forms of concertation for local development tend even more clearly towards the negotiating pole, since the participants are less numerous and the interests at stake are stronger.

compromised) is accepted by the parties for respectively different reasons. The agreement that emerges from the resolution rests on reasons that convince all the parties, in the same way [25]. "The first is placed within the strategic action, the second within the communicative action" [26].

The advantage of deliberation, therefore, is not only that in which the parties can find a position of excellent Pareto, but it is mainly the opportunity that the comparison can produce an innovative mutually advantageous solution. The result coming from the arenas can fluctuate between negotiation and deliberation.

3. A city in common (3.0): Sentiment Analysis applied to the urban planning process.

The adoption of Sentiment Analysis practices, never tested before in urban planning, could guarantee the identification of the real needs of the upstream local communities and, therefore, the success of the intervention.

The term Sentiment Analysis (SA) indicates the process of detecting the opinions of users, on specifically selected topics, directly from a large amount of data already present on the web. The idea is to use the large amount of data found on blogs and social media - especially Facebook and Twitter - to analyse sentiments (i.e.: the mood of people) on any chosen theme. It is therefore a system able to manages, to interpret and to synthesize everything that is expressed on the network, thanks to a "logarithm".

Two US scientists from Harvard University [27] in 2010 set up an algorithm to analyse the online satisfaction grade of products and services. The equation $[P(S) = P(S/D) \times P(D)]$ which is at the basis of the research, was then used by various scholars and developed for different application contexts.

An Italian example is that of "Voices from the Blogs" (VfB), a research project born in 2011 and developed by three researchers of the State University of Milan. The objective of the Milanese' research group was to operate in the field of election results forecasts. The average error between the expected data and the real ones has been less than 2%, this gives the instrument a high degree of reliability.

If we consider that the population on the web consists of less than one-third of the world population, one wonders how this figure can bring such low error margins. This happens because the decision-making process through which any individual forms his thought (opinion) is influenced by the opinions expressed by "thought leaders" as well as by ordinary people in the workplace, in the family, during recreational activities, and so on. For these reasons, anyone who expresses an opinion on the web - through a post, a tweet, or a comment - unconsciously acts as a spokesperson for a broader and more widespread opinion, already matured in places of socialization, physical or virtual, through unconscious contamination of thought. On the other hand, the data coming from the findings made through the SA are generally very reliable and can provide those who use them with a relatively reliable knowledge of the users' opinion.

The reliability of this tool makes the SA one of the most delved topics of research in today's computing world. On the web there is already a large amount of available data (Twitter, Facebook, bulletin boards, blogs, and forums); these fragments of text contain a great wealth of information

useful to companies and individuals who want to monitor their reputation and get timely feedback on their products, services, and actions. Those fragments of text (input) that represent the opinions of the users can be divided into two macro-categories: (a) Objective inputs, which contain information on the facts; (b) Subjective inputs, which contain opinions, beliefs, and opinions.

The case of subjective Inputs is certainly the most complex to analyse. The opinions expressed by users are articulated within a single thought that, in most cases, includes a whole series of different aspects that, if well discretized, can offer qualitative cataloguing by categories on the topic[viii].

In practice, to analyse the sentiment present on the web, you can use various types of algorithms. In input, we have a corpus of documents of any format (Pdf, HTML, XML, Word, etc.). The documents of this corpus are converted into text and are pre-treated through the use of linguistic tools. At this point, we move on to the main component of the system, which is the document analysis module, which uses linguistic resources to indicate sentimental annotations. The annotations can be attached to the complete document, to the single sentence or the single aspect.

This data can be reprocessed in output for the SA end-user and can be displayed in various ways, through graphs, tables, diagrams, etc. it is easy to understand how this system can provide an effective and innovative application methodology, able in supporting the process of participation in spatial planning and territorial governance.

4. Results: Re-drafting the City Plan process

Currently, according to the legislation in force in Italy, for projects or plans that make important changes to the urban layout, it is the Mayor and his Executive who choose the development strategies of the city and therefore commissions the internal or external technicians (planner) to draft the scheme of a preliminary project of the plan. On that preliminary project, the Town Council, as a body composed of elected representatives of citizenship, expresses its opinion and suggestions before drafting the final project (Figure 1).
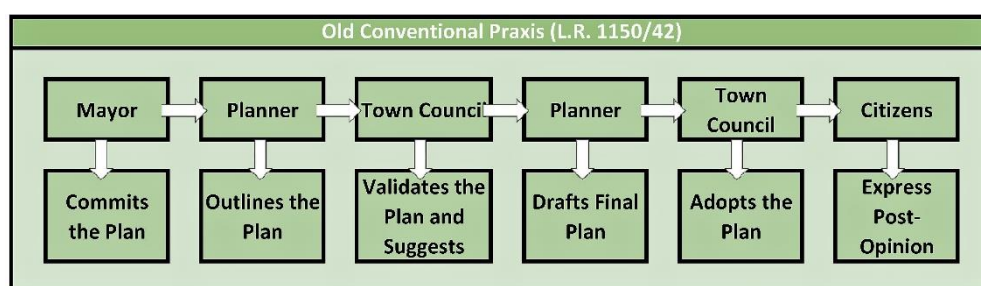
[viii] As an example, here is an online review of a hotel: "The master bedroom suite was spacious, clean and well furnished. The staff was very helpful. Heating and air conditioning worked well. The sofa bed was the best I have ever seen. The bed was very comfortable. The building and the rooms were very well sound-proofed. The area is great for shopping, restaurants, and metro access. The only complaint has to do with high-speed Internet access, which is only available on floors 8-12". Overall, the review is very positive, but refers to several aspects of the structure, including heating, air conditioning, staff courtesy, bed, neighborhood, and Internet access. The SA systems are able to provide a score for the entire review, as well as to analyze the feeling of every single aspect of the structure.

Figure 1. The current Italian "old" praxis in the development and approval of an urban "PRG".

It is understood that the Italian legislation provides at any stage the possibility for the citizen to highlight any violations of the law. Italian law has, as its fundamental principle, equality between citizens and, therefore, even the law on urban planning protects and follows this principle.

However, in recent years, the need to involve citizens already from the beginning of the process for the drafting of the Plan has been highlighted, through various forms of proposed participation, most of which are not codified, as we have previously emphasized. The practice, therefore, added in the facts a further step to the project process (Figure 2) to improve, not only the quality of the final plan but also, through the sharing of choices, the concrete possibilities of the plan implementation.
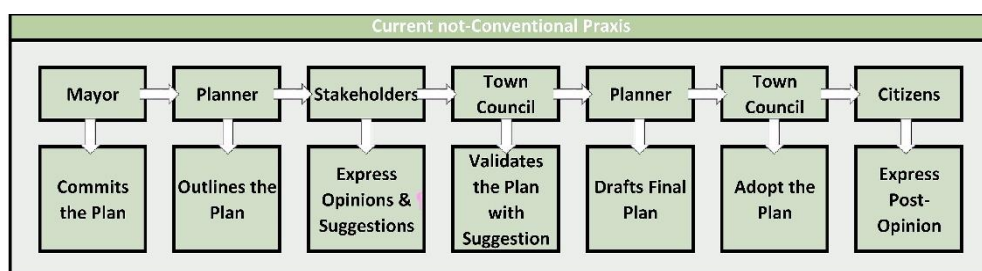
Figure 2. The not-conventional praxis in the development and approval of the renewed final project.

As already explained above, the projects that make substantial changes to the spatial planning are more likely to encounter opposition from stakeholders in local communities; therefore, they risk extending the implementation time excessively, to the point of running the risk of having an old project being implemented for both the technology used and, even worse, no longer matching the needs of the territory.

In particular, the methodology proposed in this study intends to intervene directly in the phase of identifying the development strategies for the city and, therefore, on the relief of the needs of the community and of its territory (Figure 3).
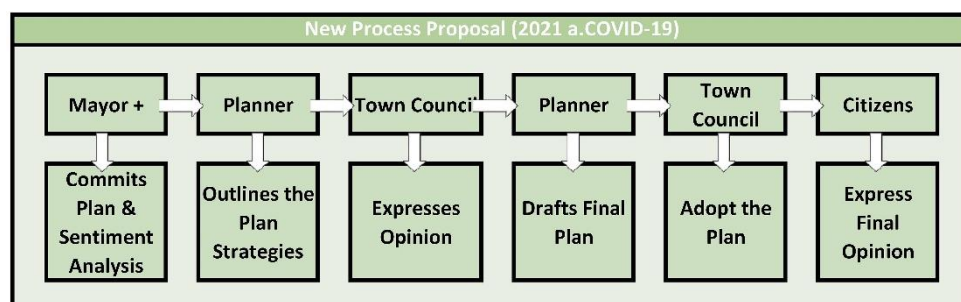
Figure 3. The new proposal in the development and approval for an urban-scale final project.

4. Discussion

Any smart city project addresses investments in both tangible and intangible communication infrastructures, concerning the human and social capital, to achieve a better quality of life and long-term sustainability in urban development. This consideration aims at qualifying the smart

city, mainly, in relation to the efficiency of the urban "machine" and the implementation of the human capital. As we tried to argue, the goal of a new city forming process could be also expanded to include more demanding objectives such as better relationships among decision-makers and citizens with a reference to "democracy, technology, technocracy". The keywords' debates have to be directed towards researches that identifies the actual relations that still exist among them because none of them remotely could be able to control a sustainable urban development and a coherent definition of the urban spaces with the desired quality of level of life.

Parag Khanna [28] in his recent text "Technocracy in America" said that technocracy is the keyword, which instantly explicates the novelty of the topic about the governance of cities, in the USA. The author analyses various forms of governance (representative democracy, direct or not, ideological leadership, dictatorships, technocracy, etc.) and argues that a technocratic government should be based on an experts' analysis and long-term planning, rather than on typical improvisations of populism. He emphasizes that, often, forms of government based on representation prevail over the ones based on the administration of public affairs, which could quickly meet the necessary services to citizens using certain data. In this way, he argues the necessity to give the same weight to "figures and democracy". Governments should respond to the needs of citizens effectively, with long-term scenarios, bringing together democratic inclusiveness and "technocratic" efficiency.

In Western democracies, the phenomenon of urban governance has always been accompanied by numerous analyses and by the collection of urban and territorial data, scarcely used in actual realizations. Firstly, ruling classes are less prepared and willing to change their decision-making behaviour and therefore rely on traditional applications that guarantee more profitable mediation among political parties. Without a democratic profile in the process, the smart city can result invalid. The meaning of cities through increasing forms of urban efficiency and human capital is no longer sufficient to clarify the deeper meaning of democracy. "Digital transformation as an ecosystem… it cannot be done, harbinger if not governed, of… terrible discrimination…. of great violation of rights… divesting monopolies…" [29].

Regarding this contribution, authors are very interested in understanding "how" public space can be planned and implemented with a form of new democratic governance. In the smart city - an urban structure where the most innovative technologies make the growth of urban welfare and inhabitants faster - it is possible to evaluate how relations between citizens and rulers can and should change.

"Indeed, in the smart city the rulers increase their driving skills and at the same time citizens may seem, for this reason, less and less able to carry out effective control over the public and private management of the enormous amounts of data on the basis of which strategies are proposed economic and social development policies and territorial infrastructure decisions." [30].

The hypotheses that are privileged are inserted in the forms of politics and administration, still selected with traditional methods, other forms of selection that appreciate some "official" forms of technocracy.

The foreseen actions do not only see the use of the term "smart city" but the attribution of a content not only limited to the efficiency of the current settlement-model but also to its management, precisely in view

of the complex process that can be glimpsed today in the collection, and use of big data

A new Governance that must be verified in its legal structure (issues of law) and in its ability to produce a city on a human scale (welfare issues).

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