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(doi: 10.53227/113112)

Rivista di Digital Politics (ISSN 2785-0072)

Fascicolo 3, luglio-settembre 2023

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# People life cycle in the compass of digital cities. Building capacities to act in the digital society as a cross-generational and intertemporal strategy

## PEOPLE LIFE CYCLE IN THE COMPASS OF DIGITAL CITIES. BUILDING CAPACITIES TO ACT IN THE DIGITAL SOCIETY AS A CROSS-GENERATIONAL AND INTERTEMPORAL STRATEGY

Digital transformation is deemed an extraordinarily effective catalyzer of processes of change in the societal and economic systems and, consequently, a potential effective drive for improvement in the inclusiveness featured by urban textures and cities' governance. Alongside this narrative, the comprehensive global agenda promoting digital infrastructures and digital tools to create favorable conditions of readability, sustainability, transparency, and accountability of public services is today streamlining most of the domestic efforts made to improve the quality of life of their present – and future – citizens. However, taking equality of opportunity as the criterion against which, the quality of these efforts is assessed proves to be a shortcoming if a much more refined and sharper set of indicators is not properly integrated into the reasoning. This article sketches a potential research agenda and explores accordingly the potential of a new paradigm for a more suitable, dynamic, and fully-fledged inclusive approach in policy design and implementation. It argues that the effectiveness of the exercise of freedoms related to the fundamental rights of citizens intimately depends on the capacities and abilities that are built alongside the enactment of policies that tackle educational cleavages, cognitive fractures and barriers, and age cleavages. The article pioneers the integration of a Sen-inspired approach in the design of learning and smart cities.

**KEYWORDS** *Equalities, Diversities, Digital Cities, Empowerment, Capabilities.*

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## 1. Where we are, and why we do not proceed fast

Democracy and human development display nowadays an unprecedented relationship in digital transformation and aging social processes restructure and relaunch under a new light, especially in the context of cities and urban contexts of living (Przeworski *et al.* 2000; Diamond 2015; Tonkiss 2014). Aging societies are more demanding regarding social services, economic sustainability, and inclusiveness (Cardullo 2019; Undesa 2015). Digital innovations injected in the context of smart cities create newly shaped opportunities to access better and cheaper services, reduce the costs of information available to decision-makers and institutional entrepreneurs, and ultimately set up better governance for all.

How shall we be living together then? Today this compelling question gains the top rank in our institutional agendas and to do so they must become compelling questions at the crossroads of the social and political sciences research efforts. In fact, over the last 25 years inequalities global trend marked a new distinctive and harsh reality (Undesa 2020). Despite income inequalities experiencing, to some extent, a temperate trend, intra-countries inequalities got exacerbated, in both developing and advanced economies (Piketty 2021). The focal point highlighted in this analysis firmly broadened and comprised social inequalities such as access to education, access to healthcare, and access to a broadly speaking better quality of life (Oecd 2015; 2020). Inequalities in a fast-changing society represent today and for the next future the most destructuring, polarizing, and destructive catalyzer of societal ties' erosion (Stiglitz 2012; Milanovich 2016; Ferrera 2021; Morlino and Wagemann 2021). This takes place in two manners. On the one hand, inequalities exacerbate social disconnections (Sharlack 2013; van Hoof 2018). On the other hand, hyperconnectivity and digitalization lose communities and erode the capacity of the youngest generations to engage in «in place» patterns of interaction.

International fora followed alongside this logic and embarked on a comprehensive agenda aiming to promote inclusive societies by means of a vast array of policies and tools, among which the design, launch, and consolidation of smart and resilient cities look the most promising and the least investigated ones from the point of view of empirical analysis of democratic institutions. In fact, the largest part of scholarship devoted to the empirical analysis of democratic quality and democratic governance refers to the national level, especially when the interlace between freedoms and equality is investigated (Acemoglu and Robinson 2009; Bartels 2008; Bobbio 1995; Morlino and Raniolo 2022). Underneath, a presupposition explains this. Freedoms and equalities are empirically assessed in relation to policies' outcomes, but they are framed into a lar-

ger picture where the conditions ensuring the rule of law and the fundamental rights of people are the cornerstones.

From a general point of view, equality and freedoms are the core values driving the policy paradigm and the institutional designs that have dominated since the second world war. They are deemed by some scholars as mutually interconnected in an inversely proportional ratio. And yet empirical evidence we have today proves rather the opposite being truthlike (see notably Morlino 2012; 2021). This long-standing debate is renewed today by three systemic challenges that hit the societal structure as we have inherited from the recent past and the subsequent pattern of equality and freedom interplay and delivering to all: aging societies and the subsequent demand for welfare and social protection; the disruptive impact of digital technology within the public sector and in the society; the recurrent picks of risks and uncertainty impinging upon the life cycle of people.

If cities are the context where transformations channeled by digital technology and the computational turn in governance are taking place, most of the social ties erosion and the patterns of inequalities and freedoms change are at their best highlighted (Graham and Marvin 2002; Foster 2022; Boix 2019).

Policy analysis and international fora forcefully advocated already for a paradigm change. The main arguments brought under the spotlight of the global media pinpoint four aspects:

- the need to rebalance access to people-centred services related to the sustainability of public expenditure scheme;
- jobs and pensions seem to undergo a deep need of rebalancing and rescaling, due to the redistribution of the ages that are providing and those that are in demand of social insurance credits;
- the shortcoming effects originated by social protection investments if not joined to in-context policies targeting the effectiveness of people to exercise their rights of access to public services and life opportunities (Putnam and Bigby 2021);
- digital devices and highly sophisticated technology will be multipliers of sustainability and inclusiveness in cities where the largest part of the population (Scharlach and Lehning 2016) is living only if it is designed and used alongside a strict people-centred and trust-conducive path (Bellino and Abdi 2022; Piana 2021).

If the challenge is a matter of a broad and deep consensual attitude, much less consensual turns out the scientific approach that scholars and experts are ready to develop and provide when policies are to be designed and implemented. The problem stands at the foundation of our conceptual frameworks and

jeopardizes the notions as well as the empirical analysis we carry on when we address the societal transformations herein presented.

Two layers of epistemological and methodological traps are preventing us from addressing properly the problem and prospecting scientifically rigorous and empirically trustworthy responses. The first layer refers to the studies carried on concerning the functioning of the state and the organizations that are pivotal actors in designing and delivering public goods and services. This layer is split into two streams of research: the new public management and the neo-weberian works on public administrations highlighting the inefficiencies of public institutions in meeting people's needs and the subsequent call for actions launched by international organizations and European policymakers to inject effective and efficiency strategies in the public administrative reforms; somehow paved the way by the previously mentioned stream of works, a new flavor of efficiency-oriented scholarship stems from the research carried on concerning the digital transformation and its growth potential to fill the gap between the demand and the offer of public services (Bygrave 2009; Franklin 2013). Both these vast streams of literature address the puzzle of the transformation undergone by contemporary society from the perspective of governance and related capacities.

A second layer of works speaks somehow of the «other part of the collective life», which is society. In that context, the key notions are inclusiveness and equality. Scholars have argued that social inclusiveness aims at empowering the poorest through investing in human capital and enhancing the opportunities for participation (Huang and Quibria 2013). Inequalities featured by society the fields such as access to the labour market, welfare, education, and cultural goods, are deemed to be the main obstacles to human and social development (Kanbur and Wagstaff 2016; Roemer and Trannoy 2015; Lefranc and Trannoy 2017) With these premises, the exacerbation the economic inequalities has been considered one of the most severe factors jeopardizing the fair and inclusive distribution of the capacities that active citizenship demands. One of the consequences of these arguments is supportive of the erosion of social trust and related social ties. This second layer of scholarship proves to be very influential in framing the policy discourse on smart cities. The emergence of urbanization as a global mega-trend is intertwined with the existential challenges that the world has faced in the last 50 years. Building economic, social, and environmental resilience, including appropriate governance and institutional structures, must be at the heart of the future of cities. The disruptive nature of Covid-19 and the emerging global uncertainties are all stark reminders that urban areas need to be prepared for an ever-changing and unpredictable future. Any vision for an optimistic future of cities must embody a new social

contract with universal basic income, health coverage, and housing. Localizing the new urban agenda and Sdg 11 is the most promising pathway to the optimistic scenario of urban futures.

Early references to the urban dimension of governance and its consequences on the quality of people's lives date to the first years of the XXI century. Yet, the concomitant break-out of the pandemic and the accelerated advancements of digital transformation underscored the importance of the city's governance and how data-driven information is channeled into a structured rulemaking system, rule enforcement, and services' delivery (Cabalquinto 2020; Engelbert 2019). According to the report on smart cities recently published by the World economic forum, digital tools and mathematical developments contain an amazingly high potential to feed smart cities' governance. For years, opinion leaders and policy analysts have deplored the mismatch featured in the encounter between the demand and the supply of services and goods within a public space of collective living, especially when this encounter is framed in inter-temporal (and inter-generational) terms. Consequently, today, the technical possibility to prospect predictive foresight in terms of needs' dynamic and life trajectories is deemed to drive far and fast the traditional governance of a city toward the data-driven government of a smart city (Lee and Lee 2014; Tierney 2019). Despite the promising prospects opened by the application of highly sophisticated tools, combined with the digital potential for cities' governance, a comprehensive view of the notion of intelligence inspiring the arguments developed herein challenges a linear and compact understanding of the normativity that is expected to be at play in a smart city, if «smart» is meant to point to the efficiency, the effectiveness, and the out-put oriented quality of the governance. If the analytical premise put forth in the introduction is accepted (namely, a notion of intelligence that combines the recognition/reiteration of a «normality» with the creation of a meaningful action), the notion of intelligence fuels the paradigm that we would recommend setting up both data-driven governance in a city and data-driven recognition of patterns and significant policies. Adopting, and implementing, «meaningful policies» means that the norms and standards used to orient the choices of the decision-makers also covered normative references to the culture of the rules possessed by citizens and laypeople. Hence/as a result, data-driven governance will be more than a purely data-based set of needs diagnosis patterns, services prognosis, and delivery. It must include tools to trigger a policymaking process and the enablement of trust-building functions. Here it resonates as an extraordinary intuition of Italo Calvino, who depicted the entrance in Tamara, one of his «invisible cities» as an experience of divarication between what eyes see and the typical nature of things. Eyes can observe images, not things.

Amazingly visionary and truthlike, its remark states that only signs warn what is forbidden and allowed in each place and under specific conditions. Data may provide the information we need to disclose and unveil patterns. The technical and mathematical qualities of the data analysis provide good reasons to take these patterns as «normality». However, further dimensions matter as to the overall quality of the cities' governance: these dimensions relate to the participation, engagement, and reliability of the mechanisms of learning and revising the policies. Effectiveness and efficiency partially address the requirements associated with the data-driven governance of smart cities. More are in the pipeline regarding benchmarks and requisites, especially fairness, transparency, and social responsiveness.

Similarly, a broader notion of normativity seems at play within the overall policy discourse on data driven governance applied to smart cities. This notion incorporates some dimensions that refer to the technological quality, others to the capacity of the governance's mechanism to comply with fairness and social responsiveness standards, and other sizes precisely refer to the legal means, such as the respect of the fundamental rights privacy, and transparency. If these preliminary remarks are accepted, a comprehensive methodology promoting both technical qualities and socio-legal responsiveness to norms and standards that have a meaning from a people-centric perspective must represent the waterfront of a possible shift in the paradigm. It is fully understandable that the promise rising from these advancements is in fact to elaborate from massive datasets to improve the interplay between citizens and institutions (Floridi 2018; Dourish and Bell 2011; Shabbir and Anwer 2018). And yet the wide and influential research and policy scholarship so far developed fall victim to an unavoidable iron cage depending on the epistemological premises and the methodologies adopted.

## 2. Beyond the positivistic trap: Taking seriously the capacity to act freely

There are four shortcomings in the above depicted scholarly literature and the related policy discourse. With reference to the state centered studies and the more recent innovation focused analysis – including the analysis that refers to digital technologies – the implicit assumption according to which more efficiency could be achieved through the leverage of the cost/benefit ratio proves empirically not adequate. The same set of reforms and policy tools triggered – *ceteris paribus* – extremely diverging paths of change, proving that

the implementation process is deeply influenced by factors playing at the meso-level, i.e. at the level of the patterns of interactions among actors.

By overlapping the guarantees and the effective access to goods and services these works endorse implicitly a positivist view of the legal norms. Yet, sociolegal studies unveil serious misalignments between formal provisions and substantial guarantees, especially when vulnerable groups are taken into consideration and their capacity to demand and obtain equality assurance is analyzed. If we ask the second cluster of scholarship, the one that focuses on inclusiveness and equality, to fill the conceptual gaps mentioned, the answer we will get is just partial and still not satisfying. First and foremost, whereas equalities are measured by scholars and practitioners at the level of macro entities – states – they are experienced by people within their context of living and in the interplay with the other. When this context-related aspect is considered, a further shortcoming emerges.

This is related to the fact that there is a stigmatization of the social groups and the social actors. Elders are weak, young are strong. Elders do not work and cost more, young may inject resources into the system. The same applies to other dichotomized groups, such as disabled and not disabled, fragile and not fragile, LGBT, to refer to some of the most debated and discussed in the process of policymaking and in academic networks.

A further weakness is related to the notion of opportunity and the connected metric of subjective assessment. Indices connotating opportunities to have resources are related to the marginal costs the opportunities entail or, in different wording, to the costs/benefits ratio that an individual expects to afford. Without reviewing and reporting the vast array of models deployed alongside long-standing literature in economics and political economy, the point is that equality is, according to this perspective, measured on the base of metrics that do not take into account the dynamic and the significance from the cultural and cognitive point of view a certain action may have.

The deepest epistemological mismatch here relates to the notion of resource and to the notion of value. Some scholars have been trying to address these puzzling aspects. Still, a paradigm change has not yet been realized. Therefore, the social crisis and the global call for revitalizing social contracts are to be connected to an epistemological crisis, which turns into a compelling call for a new scientific and conceptual paradigm. At the very bottom, the theoretical lenses with which research endeavors and policies have been envisioned miss a paradigmatic shift: we need to take seriously the capacity approach put forward by Amartya Sen and the empirical manner capacities contribute to the human development of individuals conceived as «situated actors»: actors situated in the context of life.



When these general premises are applied to the promotion of inclusiveness within the governance of smart and resilient cities the above-mentioned shortcomings come to light with particular emphasis. Digital transformation is in fact praised and deemed to be a way to unlock unequal access to resources that are key to the proper frame and assessment of the range of options that everyone is going to face when she/he decides. From a general point of view, the introduction of technological tools in the public sector can be ascribed to the broader outline opened with the creation of conditions for efficiency in the public sector. Already in the late 90s (even more in the first decade of the 21st century tended) the shared agenda converge on three key points: technology is a tool for rationalizing institutional action; technology is a means of guaranteeing access and transparency to information and decision-making logic; technology is a tool for optimizing institutional decisions.

The favorable conditions for a transversal affirmation of this paradigm to national cultures are linked to one of the themes that most characterized the debate in the 1980s and 1990s about the quality of public services and the sustainability of public spending from a perspective of cost/benefit ratio. Faced with a progressive extension of the prerogatives of the state – here understood as an actor distinct from the market – in the provision of services and the production of collective goods – environment, energy, education – the relationship between the resources absorbed by the public machine and the results achieved in terms of response to the citizens' needs became decisive for evaluating the so-called «output legitimacy»: of the institutions. In this context, technology assumes – at least on the level of the official narrative – the role of an enhancer of resources and a reducer of the production costs of goods and services. In other words, technology is expected to be able to rationalize and increase the performance of the state.

Furthermore, technology is understood as a mechanism for reducing the costs of accessing information concerning the actions of the public machine. Finally, technology is seen as a flywheel of transparency and legitimation through the activation of forms of public accountability: giving an account of one's actions and making oneself understood and «readable» by those who are not «insiders». Note that what matters in this regard is not the *de jure* but the *de facto*. Those institutions must be transparent and must be accountable to the citizen as formally enshrined in the principles and the rules that regulate the right of access to information related to public administration and to inclusive and not unaffordable public services.

However, another question to solve is whether these principles are declined in actions that effectively ensure the non-expert citizens the effective enjoyment of the right to understand – and therefore the power if needed – to

sanction, criticize, appeal against the public administration or those institutions whose actions are substantially innervated by legal norms. Hence the emphasis is placed on the centrality of technology that allows you to reduce the costs of accessing information.

In summary, the theme of e-government in its various forms appeared in the early 1990s, accompanying the set of public administration efficiency tools to legitimize the production and distribution of oriented services. To ensure efficiency. Although the countries, as often happens, have moved in this direction at different speeds.

The association between technology and efficiency has become pivotal within the discourse shared by both the European union, the council of Europe, and different international organizations, such as the Oecd, the World bank, and the International monetary fund, about the intertwining of growth and governance. In this perspective, «technology» means «endowment of technological resources»: hardware infrastructures are resources, as well as devices and software applications. A vision that frames the relationship between the increase in specialized equipment and the increase in efficiency, on the one hand, in a key of neutrality of the technology concerning the actors who produce and apply it and, on the other hand, focusing on the derivation of the quality of services from the degree of efficiency.

If the public policies of the 90s were strongly marked by governance based on standards, the dominant mark of the implementation of decisions that fall within the fabric of public services and public goods is, without a doubt, their link with data. Several reasons make this possible: the availability of massive databases resulting from the dematerialization of documents, the exponential growth of the circulation of information on the net, and finally, the penetration into the public and private life of digital technology. Of course, digitization consists of a macro-transformation process not reduced to dematerialization. Still, the translation and structuring of «content» to a common and universal language such as that made available by the binary mathematics of 0 and 1 is undoubtedly a distinctive mark. Moreover, several reasons make necessary or desirable the foundation of the decisions about public services and public goods based on the data. Facing traditional public administrations tainted by citizens as inefficient and provided with ineffective mechanisms unable to satisfy citizens' needs, the idea of having a logical device capable of correcting any form of managerial and organizational distortion and, ultimately, of giving citizens an objectively based response, devoid of any form of arbitrariness, and confident in the measure that it is drawn from the contents expressed in a universal language, appears as the long-desired balm and fortunately spotted in technique and science.

Nevertheless, this promise of objectivity and universality, which would link with the disappearance of an essential dimension of the decision – the agency – appears as very biased and unsustainable in a slightly more detailed view. In data-driven governance, actors move throughout the data factory chain to reach the decision-making process. Actors carry capacities, visions, references, narratives, and skills and enter into interaction paths at the micro-level that cross the different arenas where data are built, analyzed, stored, and governed. Next to it – where it would be better said nested with – from data-driven governance, data governance is made by data lords and digital-based control.

The advancements in computation and data sciences expanded far beyond all expectations the possibilities for human beings to engage in the analysis, the diagnosis, and the governance of amazingly complex phenomena. The promise rising from these advancements is, in fact, to elaborate from massive datasets better expert decisions. The consequences of this comparative advantage of Artificial intelligence (Ai) in complex computation, extensive data analysis, and pattern recognition deeply touch our lives. Therefore, Ai growth and its widespread expectations are compelling reasons to acknowledge Ai's potential to change all dimensions of our world. Yet, more data and information do not automatically turn into better policies and decisions. If the quality of decisions impinging upon the lives of citizens is more than a robust mathematical method, then making data-driven tools' design and use consistent with principles of fairness, transparency, and non-discrimination becomes a vital quest for all societies and governments.

The subject of infusing better knowledge into better decisions does not come new to scholars and policymakers, nor do the issues related to the growth of the data-driven policies in socially sensitive view, one of the fundamental scientific puzzles since the first decades of the XX century. Over the 90s, the dimensions of the complex puzzle of information and governance took a new glamour. Today, the several facets of the data-driven policies' transformative potential for the social and institutional systems stand at the crossroads of three fundamental research fields. First, cognition and technological impacts on organizations have gained the highest-ranked position in the social and political agenda for decades, both from academics' and practitioners' perspectives. This research field is primarily influenced by two different and still interlaced puzzles: the interaction between humans and objects – notably between intentionality and machinery – and the interaction between material and immaterial. Two ideas have been afterward influential: the notion of hybrid agent – pulling into a conceptual dimension of humans and dimension of instruments handled by humans to act – and the idea of socio-technology – where Ict is

conceived as a sociological phenomenon. The nexus focused on the convergence of social media, mobile computing, cloud-based Ict, and information stemming from massive datasets available on worldwide services, intermediations, and storage platforms.

Furthermore, in the field of public governance, the glamour of Ict stretches the hand to the call for a new season in the interplay between citizens and governments. The attraction of the Ict to regain efficiency tuned up into the ongoing stream of public administrative reforms launched already far back in the late 80s as one of the significant outcomes of the new general manager. International scholarship developed since then reframes the subject of the citizens/public governance interplay in terms of efficiency, accountability, transparency, and effectiveness. It puts on these criteria the burden of the quality of the public goods using which governments and local authorities meet the needs of citizens in vital areas: governance, health, education, utilities, infrastructures, and administrative procedures for the business.

The points raised above are differently appraised within the scholarship developed on the quality of democracy and the quality of government. Ict is related to the legitimacy of the decisions taken by rulers in three respects: more pluralistic information and more accessible data create more favorable conditions to hold institutions and rulers accountable to citizens and stakeholders; technology decreases the costs to access institutional spaces, to read and to understand institutional decisions; technology and automation trigger modernization within the public professionals and the bureaucratic bodies, by embedding into traditional and old fashion methods of governance new expert systems of decision making. The role of expertise is then acknowledged by the scholarly works that have analyzed the regulative institutions, such as the independent oversight bodies.

Taking a few steps back from this narrative allows detecting a common discursive strategy: elimination of cultural dimensions, exclusion of democratic debates in favor of technocratic dominance, shifting of the stakes of the powers of decision-making to the validation of mathematical machines of calculation, the transformation of the decision into an analysis. Today, a diffuse quest for a more inclusive, culturally sensitive, and people-centric narrative exists governance by data requires a framework of checks and balances mechanisms of a democratic and plural type, not only based on science and technology but also combining the rationalities that intervene in the choices of hidden values below a reassuring layer of aseptic and technocratic universal objectivity. To translate this approach into an accurate model of data-driven governance, it is necessary a groundbreaking scientific approach to data-driven governance. This entails accepting two interlaced challenges: a truly speaking interdisciplinary

understanding of data-integrating decision-making processes unfolded by public service institutions and an integrated and participatory method to make data-driven design and use – the two altogether – accountable and responsive to societies' notions of fairness.

Therefore, it is understandable and perfectly coherent with the mainstream that when approaching the promotion of inclusiveness by means of the digital transformation of governance within the context of smart and resilient cities equal access to opportunity to have services and resources – among which information is key – is deemed to play a major role in turning initial promises of better lives for citizens into the actually experienced capacity to choose.

Scholars working on digital transformation and transforming governance through computing, data-driven services, and automation from a sociological point of view started to be critical of this way of thinking from three points of view. First, the capacity to interact through digital platforms and via digital channels or tools is unequally distributed among the population. Second, the missing mechanism in this paradigm is related to the phenomenology of social connections, social ties, and community-building processes.

How to take this into account without endorsing a constructivist approach that puts on the shoulders of the cultural explaining variables the rationale of the individual choices and social actions? This goes back to the need to change the paradigm. Nowadays we need to launch a new policy paradigm to see how smart cities incorporate digital transformation to make this latter a catalyzer for a capacity-building process where social groups are mutually engaged in a virtuous dynamic of collective life.

The proposal herein put forth endorses a new paradigm and works out a pathbreaking approach to digital governance to empirically find and practically verify its solidity and its adequacy to envision our understanding and our acting within future societies living in cities that incorporate human and digital agents in the governance and services' design and services' delivering.

This approach frames the development of a new analytical approach and the subsequent in-depth research activities deployed in a comparative and interdisciplinary perspective at the crossroad of three mainstreams in social and political research: social inequalities in advanced democracies; the sociopolitical understanding of the exercise of freedoms in the context of life; the transformation of the city's governance. Despite it takes full stock of the vast and articulated – and eventually not consensual – scholarship that addresses these subjects, the paradigm here outlined prospects a distinctive and innovative step forward in the way equality is meant to be an enabler in the citizen's life allowing citizens to exercise higher degrees of freedoms. This step consists of outlining a new paradigm where equalities of access are reframed with specific

reference to the equality of access to wealth, access to healthcare, and access to education; a parallel and related reframe is prospected regarding the notion of freedom.

This is deemed to be meant for the effective capacity to exercise freedoms. Disentangling the mechanisms that intervene within the contexts of life and shape the capacities to act as right-holders the understanding of the dynamic that bridges from quantitatively equal opportunities to qualitatively meaningful opportunities to act gains clarity and depth. The freedoms that each person exercises within these sectors are pivotal in ensuring human development. It is empirical evidence that social actors suffer the most from on the one side the uneven capacities to access services and information and on the other side the capacity to engage in the public space governed by institutions intensively integrated with digital tools and data infrastructures.

To achieve this understanding, scholars need to develop a new understanding of the logic of explanation that relates equality of access to the exercise of freedom. It does so with specific reference to the context of life that people, as situated actors, experience. This conceptual shift, which entails a better consideration of the experience of the opportunities people are facing in the context of life, explains the heuristic justifying cities as the empirical level of analysis.

Underneath, this reasoning draws from Amartya Sen's notion of capabilities. However, in this article Sen's approach is not discussed nor critically reviewed. Rather than delving into the analytical operationalization of Sen's notion, arguments developed herein to advocate in favor of a prominently capability's building paradigm in cities' governance endorse Sen's vision as an heuristic.

This seems to be particularly adequate to enhance with a better understanding of how citizens and governing institutions interact the increasingly waving enthusiasm for smart cities: cities where digital transformation is incorporated into the governance to promote more inclusiveness and better life. Cities are meant to be the context of governance where data-driven services and platforms incorporating blockchain devices are used to ensure that predictive rationalities, optimizing algorithms, and better-tailored responses to the people's needs are ensured by means of a permanent partnership of private and public stakeholders.

In a new paradigm, an essential conceptual distinction plays as a pivot: inequalities are measured in terms of structural allocation of opportunities of access to key public goods – key because related to the development of human life; capacities are the result of intervenient variable targeting structural allocation of opportunities of access and catalyzing the exercise of freedoms. For in-

stance, formally protected equality of access to education needs a catalyzer to become effective freedom to use knowledge to set up entrepreneurial activities. Equal access to health care may be formally guaranteed but needs a catalyzer to become an effective exercise of freedom to improve individual quality of life. Whereas digital transformation decreases the costs of access and therefore positively impacts the structural allocation of opportunity of access, under conditions of lack of capacity, it does not turn into a positive impact on the effective exercise of freedoms. Capacities are therefore the functional variable that takes the opportunities and makes them into effective freedom.

The capacity to act leads to reason in terms of capacity building at the individual level. People experience a situation of action where they assess on the base of multiple metrics, combining costs/benefits analysis, different dimensions of cultural significance, and the expectations of sustainability. Equal opportunities that are objectively equally accessible may not have the same significance for different people and in different timeframes of life. In this vein, the same option to act assumes a different meaning if assessed against the expectation of long-standing consequences or short-term gains/losses. Moreover, the capacity to act freely relates immediately to the capacity that each person must understand and get situated in a meaningful manner in the actual context of life she or he is experiencing.

Despite these remarks may sound purely theoretical, they take an immediate empirical and practical significance when they are translated into strategies to promote better governance. Alongside the reasoning that is inspired by the capacity approach the effective availability of knowledge and the high quality of rule implementation and internalization play the role of mechanisms translating objectively standing options into socially significant and viable actions to exercise freedoms. By reframing the research and the subsequent policy discourse in terms of capacity building within the context of life, research (and related policymaking) regains in the framework two catalyzers of capacity-building processes in connection to the context of living: permanent learning of people, especially about their rights; stability of rules and regulations, which allows planning, investing, and engaging in time-consuming changes.

Knowledge and rules' stability are facilitated in smart cities by the aware, responsive, and people-centered design and use of digital devices. It is exactly from the empirical analysis of the impact rights' awareness and rules' stability have that the economically measured inequalities can be reappraised as interactional differential paths of capacity building thereby impacting the effectiveness of the freedom's exercise in key sectors of human life, such as civil freedoms in the governance and legal systems, economic freedoms in the entrepreneurial and business projection, political freedoms in the expression of dissent.

### 3. A new mindset within public institutions

If the perspective outlined above is taken seriously as a compass to shape new governance strategies in digital cities, the people-centered principle must be meant a «people life cycle» centered approach. Inequalities and eroded capabilities to act, take benefit from access to digital services, and to exercise fully-fledged freedoms in the economic, social, and collective contexts are dynamic dimensions of «people». Therefore a people-centered governance must be dynamic and integrate accordingly a learning, revising, evidence-based updating mechanism.

Modern and people-centered governance is deemed to be a strategic asset to ensure lasting, sustainable, and inclusive advancements in human and social endeavors. Inscribed in the Sdgs agenda, notably in relationship to goal 16, the objective of making governance systems modern and people-centered impinges indirectly on all other Sdgs goals. This is because governance institutions reconnect governance to people's needs, ensure planning, create the playfield for economic and social actors, and set the ground where to settle modernizing policies at all levels, including cities and urban living.

The two focuses highlighted – modern and people-centered – stem from a comprehensive understanding of the quality of governance. Modern means here effective, capable of delivering, engaged into planning and using resources (human, material, infrastructural) in a responsive, transparent, and sustainable manner, to design services and platforms according to an evidence-based method, and finally but not less importantly, to assess and evaluate both the process and the results.

All these aspects relate to the second emphasis, notably «people-centered». People enter the stage of the 21st century governance systems from three different perspectives:

- people toward whom services and responses are delivered;
- people who are operating within governance institutions;
- people who have responsibilities in the governance of legal services and governance policies.

If we go back and pick up the modern dimension of our perspective this is immediately and directly connected to digital transformations as well as organizational and functional rethinking. Instead of having a sequential approach modern systems are asked to adopt a modular, integrate working method. Team building and team shaping turn out key assets for all the instances that intervene in the design-development-delivering-assessment-learning process of the policy making.



Patently, the demand of governance follows today new paths and takes new shapes. Stakeholders and citizens are confronted with a much wider – and complex – range of «gates» to access the governance systems.

The notion of access itself experiences deep changes touching upon the linguistic dimensions (access means readability), geographical and material dimensions, and the organizational dimensions (access means timely and prompt services). Governance delivering equally reflects this reshape that has profoundly questioned both analytical and practical rationalities adopted so far to draw the boundaries between functions, tasks, scopes of responsibilities, and spaces of interactions among actors engaged in ruling and governing.

At the micro level, professionalisms related to rulemaking and rule-implementing tasks have become hybrid and multidisciplinary. The branches of the state experienced a comprehensive process of reshaping and reshuffle.

Building a governance centered on people entails building capacities to interact with differences, inequalities, differential capabilities at first within the public staff.

The compelling transformations that are preconized – and aimed – within digital cities require a consequent and consequential strategy of skilling and upskilling not only in substantial terms, but also in terms of soft skills.

The legitimacy of response delivered to meet governance needs and demands as they arise within the societal contexts is conjointly challenged. Therefore, skills and reskilling policies prove to play a strategic role in making the goal of a more inclusive, fair, and access to all governance into a practiced reality.

The interplay between modernization-related skills and people-centered skills deserves some more detailed remarks and considerations. Modernization-related skills refer immediately to the systemic request governance institutions must fill. This is to be capable a standardized, predictable, and efficient manner and, consequently, to be capable of acting by compliant with norms of managerial quality, evidence and data responsiveness, benchmarks, and best practices. Moreover, modernization takes a new meaning at the aftermath of the digital transformation which injects in the governance systems a wide range of tools and policy working methods based on new types of «intelligence» and rationalities. Software devices, case management platforms, massive data set of case laws, digital forensics, and artificial intelligence applied all along the path made by a legal problem toward the result that consists into finding a solution, these instances, altogether, are in a way new rationalities. Actions are performed in a new way and new professionalisms are made necessary.

Furthermore, modernization does not by any means take the shape of a resetting strategy. Layering and merging are common patterns of adaptation to

exogenous factors hitting complex systems. And yet, skills are at this regard essential to ensure that continuity and learning feed the governance of the governance institutions. Consolidated skills and acknowledged capacities handled by all actors involved in the services and governance chain represent a resource and anchor the chain to professional legitimacy. So, skills' policies and reskilling strategies must make the best of the «in place knowledge» – especially those that today look as the spread result of the many reactive actions undertaken to deal with the pandemic.

All these circumstances together are shaping new scenarios at the interface between the demand and the offer of governance, where new leading capacities, new knowledge, and new epistemologies, as well as new training and learning methods, turn out necessary. At the very base of these compelling phenomena, a thread linked up fields and institutional settings as well as arenas and actors' constellation. They include the knowledge and the methodologies we need to fabricate good rules, to have them legitimated, against both legal and social standards, and to shape them and the patterns of their *mise en oeuvre* in such a way that they are conducive to fairness and socially responsive actions of rights enforcement.

If we move toward the second aspect of the modern and people-centered governance – people – centered – a range of distinctive aspects prove essential to ensure that people are at the centered of the entire chain, from design to rule adoption, to rule implementation, to responses' delivering, and systemic assessment/evaluation. A people-centered approach to governance engages into a new paradigm featuring four distinctive aspects:

- A design of services and gates to the governance institutions responsive to the capacities and the needs of the different social groups and economic actors. An empirical knowledge of the actual state of the matter in the field of the demands (the plural is deeply meaningful in this context) of governance is an asset to launch a sustainable, credible, and legitimate process of policy making.
- The capacity to make services and governance institutions readable and intelligible for a non-expert public goes hand to hand with a people-centered approach. Yet excellent professionalism, autonomy, impartiality, and avoidance of all forms of politicization must equally preserved. For this reason, training and professional enhancement of policy leaders will play an essential role to the protection of the governance legitimacy (which is a precondition for the well-functioning of all socio-political systems, national and transnational).
- The widespread digitalization and the challenging combination of poverty and demand of governance may exacerbate the gap between

the governance institutions and the individuals. We need governance policy designers shaping models of governance organization that make the most out of the digital turn and, at the same time, ensure that fundamental freedoms are not eroded.

Consequently, governance institutions and policy makers operating within and around the legal and the governance systems started to seek new frames, new narratives, new tools, and new policy strategies to rule across boundaries and at the interface between disciplines, «savoirs», scopes of action, and responsibilities.

The rationale leads to acknowledge that in a people-centered governance the capacity to deal with the context where people are living is essential. If modernization requests to be standardized in a way people centered skills bridge from general norms of quality – both in the service and in the management of the institutions – to contextual-sensitive normative references of quality. Skills to deal with cultural and linguistic differences are here salient, as well as skills to interact with people by listening and accepting all the graduations of education, economic status, and social conditions. A particularly high value lays on the side of the capabilities to create deliver and assess legal services and governance outputs that respond to the needs of people affected by disabilities.

A people-centered approach reframes equally the patterns of interaction between those civil servants and public officers who have responsibilities in training and steering and the human resources that today are increasingly impacting on the governance of governance institutions: they introduce new visions, new experiences, lateral recruitment is become more and more frequent, and the after pandemic experience is marked by a strong commitment to renovate the personnel. Team building, individually tailored paths of skilling and reskilling are among the skills that leaders of modern and people-centered governance system must have.

The professional competencies must cope with a new compelling dimension of the jurisdiction: this is the digital transformation. Data analysis, automation devices, big-data lakes, massive calculus potential applied to layers of data and information flows are altogether challenging the skills, the knowledge, and the cognitive frame through which all actors operating within the governance institutions and at the interface between societies and governance systems need today and will need in the very next future.

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