

Citizens' role and digitalisation in the participatory budgeting to create public value: the case of Rome

Citizens and digitalisation for public value

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Abstract

Purpose – In recent years, the public sector has faced the challenge of digitalisation. This has significantly impacted the relationships between citizens and public organisations and, thus, it widely affects participatory processes, such as participatory budgeting (PB); in fact, digital tools (DTs) have emerged as a solution, increasing citizen engagement whilst improving efficiency, reducing costs and saving time. This contribution analyses PB in Rome, which is also implemented with DTs, seeking to understand how DTs impact citizens' role in creating public value.

Design/methodology/approach – The study is based on a qualitative approach, precisely by analysing a descriptive and exploratory single case study of PB's first adoption in Rome in 2019. The information is obtained from multiple sources and examined through document analysis.

Findings – In the Roman context, DTs in PB primarily facilitated cost-effective information sharing, offering citizens basic participation. Unfortunately, the potential for more interactive DTs was overlooked, failing to enhance citizen engagement in critical phases like deliberation, evaluation or monitoring. Therefore, the tools did not fully support citizens becoming co-creators of public value instead of just users in governance.

Originality/value – The novelty of this study lies in exploring the difference between the use of DTs that assist citizens/users in improving service quality and those that support citizens in creating a public and shared value. It ventures further to assess various tiers of participation, meditating on the digital elements that stimulate active engagement and value creation instead of simply expanding the participant pool or process efficiency.

Keywords New public governance, Participatory governance, E-government, Digital governance, Citizens' engagement, E-participatory budgeting

Paper type Original article

1. Introduction

Public value can be defined as “the achievement of the politically mandated mission of the organisation and the fulfilment of citizens' aspirations that are reflected in that mandate” (Grossi and Argento, 2022, p. 274). However, whilst this objective is universally acknowledged, the perception of the politically imposed mission and how citizens perceive the fulfilment of their expectations have evolved over time, particularly in the transition in public sector managerial strategies from New Public Management (NPM) to New Public Governance (NPG).

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During the NPM, outputs are produced in an economy and responsiveness way, with the final goal to obtain public value (Bryson *et al.*, 2014; Hyndman and Liguori, 2016). Hood (1991) stated that such managerial change needed commitment to improve efficiency and performance. Therefore, public value is predominantly associated with service improvement and efficiency (Moore, 1995). In this scenario, citizens were regarded as mere users for whom public value must be produced, involving them only at the end of the process: this action was to understand their judgement about what was provided. At the same time, digital tools (DTs) were used, on the one hand, to perform the services better, and on the other hand, to enhance the citizen's experience as a user (Calista and Melitski, 2007; Agostino *et al.*, 2021, 2022). The resulting efficiency, speed in interaction, and accessibility of data fall under the definition of "e-government" (Orelli *et al.*, 2013). Therefore, the e-government concept emphasises access to data and its reuse (Hansson *et al.*, 2015).

On the other hand, during the NPG period, creating public value refers to a broader concept imbued with social and democratic value aimed at meeting collective needs and fostering community well-being (Jørgensen and Bozeman, 2007). This new management logic focused on effectiveness and broader societal impact (Osborne, 2006; Almqvist *et al.*, 2013). To achieve such objectives, governance evolved to be shared, horizontal and participatory, and citizens assumed the role of co-governors and co-creators of public value (Thomas, 2013; Wiesel and Modell, 2014; Osborne *et al.*, 2016). This context has led to the advent of participatory processes, which, if properly implemented, can enable value creation through citizen participation. In this context, the use of DTs called "digital governance" (Dunleavy *et al.*, 2006), is to improve the involvement in governance by engaging citizens, increasing transparency, and enhancing trust in government (Manoharan *et al.*, 2023).

One of the best-known and most used participatory processes is the participatory budget, a budgeting process in which people are involved in resource allocation (Sintomer *et al.*, 2013) and which, if perfectly implemented, would involve citizens in all steps of the decision-making process (Mattei *et al.*, 2022; Manes-Rossi *et al.*, 2023a). The citizen's active role in this period has also been supported by the use of ICT tools that allowed for the improvement of the relationship between citizens and administration, hence making it easier and more profound (Charalabidis *et al.*, 2022; Cegarra-Navarro *et al.*, 2012; Secinaro *et al.*, 2022). This change can also be adopted in all stages of participatory budgeting (PB) (Sampaio and Peixoto, 2014; Stortone and De Cindio, 2015).

From the above, it is clear that technology plays its role in value creation, and it does so under two distinct perspectives (Manoharan *et al.*, 2023; Calista and Melitski, 2007):

- (1) To improve performance in the provision of services in terms of efficiency in the NPM and create democratic and social impact in the NPG.
- (2) To create systems that impact the relationship with the citizens, first seen as users in NPM and then as co-creators during NPG.

Therefore, from a theoretical perspective, the different rationale behind using DTs to support the relationship between citizens and public administration is clear. However, in practice, public administrations do not always uniformly and precisely follow these trends. Moreover, the necessary changes to implement the NPG participatory impulses require adaptations in existing systems, including the digital realm. With that said, this study aims to investigate how DTs affect the role of citizens in creating value, enabling them to assume the role of co-creators of public value. Consequently, the research question (RQ1) can be summarised as follows:

RQ1. How do ICT tools impact citizens' role in creating public value?

To answer this question, we conducted a qualitative study concerning a descriptive and explanatory case study (Scapens, 2004), the Rome Municipality. The interest in analysing Rome's case study comes from the PB integration in the broader digital plan, called digital agenda (2017). The analysis shows that PB digitalisation has provided several benefits to Rome, making the process more rapid and improving the information shared with the people, according to e-government principles. However, as digital governance requires, DTs capable of fulfilling the citizens' role envisioned in the NPG as co-creators of public value (Fung and Wright, 2003; Dunleavy *et al.*, 2006) have not been developed. Consequently, it is not possible to assert that citizens have effectively assumed the role designated by the NPG.

This study is relevant as it highlights the crucial aspect of elevating citizens to the status of co-creators of public value necessitates adequate technological support. It emphasises that merely designing a participatory process is insufficient to achieve genuine engagement in value creation. Furthermore, the study draws attention to the fact that the DT's presence does not inherently lead to benefits in terms of value co-creation. As exemplified in the Rome case, such tools may primarily enhance process efficiency.

The paper is structured as follows: Section 2 introduces public value creation and the changes that have occurred in transitioning from NPM to NPG. Section 3 delves deeper into the role of citizens and the support of DTs across these two managerial paradigms. Section 4 focuses on e-participatory budgeting, analysing the role of citizens and DTs in each phase. Section 5 covers the methodology employed, whilst Section 6 describes the chosen case study: the first PB adoption in Rome. Section 7 discusses the results. The paper concludes in Section 8 with the conclusions, the implications and the study's limitations.

2. Public value creation

The rise of public value concept can be traced back to Moore's work (1995), where he asserted that public value generally refers to objective states of the world that can be measured. Moore assigns the task of creating this value to public managers, who are in charge of generating it through the enhancement of service delivery (Vigoda, 2000).

However, some critics to Moore's approach arise, since several scholars (Jørgensen and Bozeman, 2007; Stoker, 2006; Meynhardt, 2009) state that public value appears to be more complex than a simple improvement of the service delivery: it reflects an almost predictable resurgence of the "collective" theme, seeing public sector activities not reducible to individual cost-benefit analysis models, customer orientation or rational choice (Bracci *et al.*, 2019). In particular, Meynhardt (2009) highlights that organisational actions are invariably subject to diverse external evaluations and shifting expectations in pluralistic societies, leading to a constant exchange of feedback between society and the organisation. This vision is also consistent with the idea that public value is not the result of exclusive government activity, but it is created by different actors (Jørgensen and Bozeman, 2007), including citizens, who have a significant role. In this scenario, they actualised their involvement through what Osborne *et al.* (2016) defined as "co-production", as the voluntary or involuntary involvement of the public in any of the design, management, delivery and/or evaluation of public service, who can assume different facets, depending on the intensity of their engagement. Instead, co-creation is the more encompassing term, whilst co-production has a more specific meaning (Osborne, 2018). Given this distinction, in the paper, these meanings are assumed in commenting on citizens' role.

Another aspect that should be considered in discussing the public value creation is the DTs. Even in Moore's work (1995), the concept of public value, whilst not explicitly addressing digitalisation, lays a crucial groundwork for analysing how digital technologies catalyse transformation in public management, requiring that public administrations equip themselves with adequate resources. In this view, digital tools, which are nowadays essential,

could help in reshaping service production and delivery by public sector organisations (Panagiotopoulos *et al.*, 2019). However, most DTs' use focuses on efficiency-driven performance measures, such as cost reduction and return on investment, as well as managerial objectives like transparency and accountability, which are closely aligned with private sector standards (Cordella and Bonina, 2012). Conversely, with the evolving role of citizens and public sector managerial reforms, also the DT's function has also transformed; these aspects are detailed and analysed in the following paragraphs.

3. Citizens' role, digitalisation and public value: an *excursus* from the NPM to the NPG

As previously asserted, public value creation has become the main objective of public administrations. However, within the discourse surrounding "public value", an elusive realm exists that proves challenging to define. The essence of "what constitutes public value?" relies heavily upon the societal requirements of a given period, intertwined with prevailing political aspirations and ideologies (Nabatchi, 2010). As such, the concept of public value is inherently dynamic (Bryson *et al.*, 2014).

When looking at the public sector, one of the main changes associated with public management logic is how citizens and DTs have changed their relevance within public administration. Aware that NPM and NPG are not separate logics that can be uniquely traced to historical periods but are on the evolution of the other and that specific features of both paradigms emerge simultaneously, is using the same reasoning already set forth by Mattei *et al.* (2021) concerning auditing, this paragraph is organised into two subparagraphs, investigating how the role of citizens, the function of DTs and the concept of "public value" have changed in the transition from NPM (paragraph 3.1.) to NPG (paragraph 3.2) (Cordella and Bonina, 2012). In paragraph 3.3, a comparison of the two previous sections is done.

3.1 Citizens' role, digitalisation and public value in the NPM

The NPM emerged as a managerial approach in the public sector during the 1980 and 1990s (Osborne and Strokosch, 2022). Several notable shifts have accompanied the adoption of the NPM, deviating from the conventional bureaucratic model. With the aim to emphasise the results achievement and personal accountability for managers (Hood, 1991), the NPM entails a transition towards enhanced flexibility in organising, personnel management, and employment terms and conditions, promoting the establishment of clear organisational and individual objectives, measurable through performance indicators, with a preference for explicit quantitative targets (Hood, 1991).

NPM has introduced some private sector managerial practices, such as systematically evaluating programs to gauge their effectiveness in attaining desired output. This has heightened emphasis on implementing controls (Boston, 2016; Pollitt and Bouckaert, 2017). In the NPM, a discernible trend has occurred, focused on reducing government functions through privatisation and other forms of market testing and contracting, aiming to optimise the delivery of public services and enhance efficiency (Boston, 2016).

Focusing on considering citizens within this management paradigm, they are primarily viewed as consumers/customers/users to be satisfied. In particular, categorising citizens as self-interested and passive consumers, in NPM, they are empowered only through the exercise of individual preferences in the markets/quasi-markets for public services (Osborne *et al.*, 2021). They are also asked for a satisfaction test in the most enlightened process. However, in this narrative, participation is still framed as an opportunity to reduce costs and increase efficiency rather than to enhance democracy (Osborne and Strokosch, 2022). In addition, typical of this scheme is to provide for ex-post citizens' involvement. In this way,

instead of acting as a catalyst for a shift in decision-making in favour of citizens, pre-made decisions tend to serve public officials' interests or local elites (Lowndes *et al.*, 2001).

In this scenario, public administration tried to introduce the DTs' use, called e-government (D'Agostino *et al.*, 2011), to provide services with more emphasis on speediness, accessibility and efficiency (Orelli *et al.*, 2013; D'Agostino *et al.*, 2011; Meijer, 2015). The DT's strength used in this way is that they can ensure both a better monitoring of the performance and an increase in transparency, thanks to the analysis of the public services output, open data platforms, apps and visual methods (Lindquist, 2022). On the other hand, the weak point is identified in the fact that, in this vision, DTs are means for citizens to fulfil their role as passive customers and allow them to monitor public performance at the end of the process (Calista and Melitski, 2007). Examples of these types of tools include the creation of user-friendly, customised platforms and the implementation of basic communication with citizens via email or electronic formats. Furthermore, given the passive role of citizens in service delivery, additional examples encompass online government portals that centralise access to information and services, such as tax payments or official document requests; digital archiving systems for public record and document digitalisation; and online application tracking platforms, allowing citizens to monitor the status of public service (Orelli *et al.*, 2013; D'Agostino *et al.*, 2011).

For what concerns the public value, seen as the consequences of what has already been said before, its generation depends on the enhancement of service delivery in which citizens have minimal involvement (Vigoda, 2000) related to their necessity to satisfy personal affairs. In this view, ICT tools help public administrations organise public offices better and deliver services (Cordella and Bonina, 2012).

3.2 Citizens role, digitalisation and public value in the NPG

The new concept of governance, arising from the NPG, which has developed since the beginning of the 21st century, has abandoned the vertical logic focused only on the internal efficiency of public entities and opened up a more horizontal structure (Cepiku, 2005). In particular, it has focused on effectiveness, allowing for an evaluation of public actions' impact on society (Osborne, 2006). With these new views and objectives, NPG broke some rules of previous public management paradigms (Osborne, 2006); in fact, it is characterised by networks, where public administration has a supervisory role and must manage different relations with various actors, first and foremost citizens (Sørensen, 2016).

In this vast concept, a staple point is the central role of the citizenry and its engagement in the decision-making process, an aim that can be found in participatory governance, a particular perspective of the NPG (Fung and Wright, 2003). Therefore, looking at the citizens' role in this paradigm, it is possible to see citizens as an active part of public value creation. Although this model has been criticised, especially for the circumstances in which there is not a *de facto* empowerment of all citizens, but only of specific elites (Osborne and Strokosch, 2022), it is possible to recognise in the best expressions of the NPG a capacity to create a dialogue amongst citizenries and between citizens and public administration, that strive for collective understanding and shared decisions (Fung and Wright, 2003).

In this perspective, the technology role has changed compared to what happened during the NPM by specialising in constituting the medium through which public administration and other actors communicate, dialogue and, ultimately, co-produce and co-govern (Cordella and Bonina, 2012; Thomas, 2013). This phase of the digital transformation, called "digital governance", consists of using different ICT instruments to improve government efficiency, transparency and effectiveness, accountability and engagement (Dunleavy *et al.*, 2006; Grossi and Argento, 2022). Furthermore, it implies that ICT should be used to produce a shift from agency-centred to citizen-centred processes (Dunleavy *et al.*, 2006). DTs became the main

instruments to elevate democracy, allowing citizens' empowerment in decision-making, thus resulting in a better and broader representation of the citizenry's interests (Larsson and Grönlund, 2014; Brás and Dowley, 2021). Examples of these initiatives include interactive e-participation platforms allowing citizens to contribute to policymaking, online forums for public consultation and debate and the use of social media channels and synchronous video for direct and transparent communication between government officials and the public. These tools not only enhance the engagement and involvement of citizens in governance processes, but also facilitate a more dynamic and responsive form of governance where citizen input is actively sought and valued (D'Agostino *et al.*, 2011).

Given the above, the public value creation under NPG is not just about service delivery but it is also related to the social and democratic value, considering the collective good and the community's broader interests, where the co-production of services meet common demands (O'Flynn, 2007; Osborne *et al.*, 2016). In this panorama, "ICT has been implemented to enhance participation and democracy, by opening new and innovative channels of participation" (Cordella and Bonina, 2012, p. 516).

3.3 Citizen role, digitalisation and public value: a comparative analysis through NPM and NPG

NPM and NPG should not be viewed as two opposing managerial paradigms but rather as an evolutionary progression from one to the other, each with distinct focuses reflected in their objectives and characteristics (Christensen, 2012). In addition, the features of each paradigm are still evident to varying degrees in contemporary public reforms, indicating their ongoing relevance and influence in shaping public administration.

Comparing the citizens' roles in NPM and NPG views, it is clear that citizens are invariably the beneficiaries of services. However, their involvement in the value-creation process differs depending on the paradigm considered (O'Flynn, 2007). Given the characteristics mentioned above with which the citizen is considered in the NPM, this paradigm has often been criticised for not foreseeing direct citizen engagement for two reasons (Osborne *et al.*, 2021): (1) NPM's managerial approach has led to consider public managers as those who must create public value; (2) no one else is part of this process. In addition, considering citizens passive consumers, the few attempts to involve citizens are still made with a view to greater efficiency, not enhancing but diminishing the influence of the community in the decision-making.

On the other hand, in NPG, thanks to the active involvement of citizens in the management of public organisations, primarily through deliberative moments, citizens are empowered and become part of shared value creation (Thomas, 2013; Brown and Dillard, 2015). In this sense, by participating in the co-production of public services, citizens become advocates for general interests and actively facilitate the creation of value that extends beyond personal interests (Osborne *et al.*, 2016).

Focusing on the DT's role in e-government, they are instrumental in implementing the process, improving its efficiency and reducing costs (Lindquist, 2022). In the case of digital governance, DTs become an active part of the process, enabling a shift from agency-centred to citizen-centred processes (Dunleavy *et al.*, 2006; Cordella and Bonina, 2012). Therefore, in the latter case, DTs are instrumental in empowering people (Manoharan *et al.*, 2023; Calista and Melitski, 2007).

The shift from a market-driven approach under NPM to a more inclusive, stakeholder-oriented approach under NPG represents a fundamental change in understanding public value. If in the NPM, value creation is approximated by the improvement of public service performance (Kloot and Martin, 2000), in the NPG, value creation takes on a broader meaning: first of all, there are more actors involved, as there is an awareness that to produce public value direct interests (citizens) inevitably participate in the creation of this (Sørensen, 2016).

Moreover, the focus is on the services' impact on people. In this sense, allowing citizens to participate in all phases of public value creation leads to an impact that generates capabilities and satisfies common needs over a longer time horizon (Osborne *et al.*, 2021).

As observed, both the role of citizens and the DTs utilisation have undergone a coherent evolution aligned with the progression of public value creation in NPM and NPG, which are paradigms that are not in opposition but instead overlap and complementarity (Christensen, 2012).

Hence, it becomes feasible to construct Table 1 as a synthesis of the above-reasonings.

4. Digitalising participatory budgeting to create public value

4.1 Participatory budgeting: an NPG practice in the public value creation

As mentioned in paragraph 3.2, the management paradigm that considers the active role of citizens in public value creation is the NPG and, particularly its facets called participatory governance that has a specific focus on citizens' participation (Grossi and Argento, 2022). Indeed, participatory governance aims to make public sector organisations "more responsive to citizens and more effective in the service delivery through the building in participation and accountability" (McGee, 2003, p. 7).

It has three distinctive characteristics that can be summarised as follow: (1) it should have a practical orientation, in that it is designed to solve the relatively narrow issue (Fung and Wright, 2003); (2) it has to involve ordinary people who are affected by the decisions, creating bottom-up participation because citizens could give more perspectives that, autonomously, public administration could not understand and take into account (Fung and Wright, 2003); (3) it implies a deliberative solution generation (Fung and Wright, 2003) that aims to reach consensus based on exchanges of reasoned arguments, by persuading and discussing (Bebbington *et al.*, 2007; Brown and Dillard, 2015). Amongst all these aspects, it is essential to dwell on the third one, related to the relevance of a deliberative moment (Nabatchi, 2010). In fact, decisions have to be based on opinion exchanges and not inconsiderable communication efforts (Fung and Wright, 2003). Participatory governance creates a dialogue between individuals who strive for collective understanding and shared decisions (Fung and Wright, 2003). Deliberation allows citizens to weigh the pros and cons of available options and their implications (Brown and Dillard, 2015). This governance model provides citizen empowerment to be initiated, transferring decision-making power to participants (Nabatchi, 2010). Only with this profound attention to the deliberative moment is it possible to create a higher level of participation than mere citizen consultation (Arnstein, 1969; Fung, 2006). In this approach, citizens assume a primary role thanks to the co-production of services, which enables them to represent and address general interests (Osborne *et al.*, 2016). However, the co-production realisation is possible if and when politicians and public managers decide to share governance with citizens (Sønderskov, 2019; Manes-Rossi *et al.*, 2023b).

Managerial paradigms	Citizen's role	Digital transformation phase	Public value creation
<i>New public management (NPM)</i>	Users/Consumers/ Costumers	E-government	Improving the quality of service delivery to satisfy personal interest
<i>New public governance (NPG)</i>	Co-governors and co-creators of PV	Digital governance	Creation of social and democratic value, taking into account the collective good and the community's interests

Source(s): Authors' own elaboration

Table 1. Citizens' role, digitalisation and public value in the managerial paradigms

With this in mind, one of the best practices that can incorporate participatory governance is participatory budgeting, a budgeting process in which people decide how to allocate resources (Mattei *et al.*, 2022; Douglas and Overmans, 2020). It is considered an instrument aimed at ensuring the citizens' direct involvement since it leads to inclusiveness and equitable deliberation (Cabannes, 2004) and can recreate the link between citizens and public institutions, basing the political decisions on public expectations (Papadopoulos and Warin, 2007). Even if the attention on this practice is increasing (Bartocci *et al.*, 2022), there is no unique definition of PB, and under the same umbrella, a range of practices are brought together, hence implying a different level of citizen engagement (Bartocci *et al.*, 2019; Mattei *et al.*, 2022; Manes-Rossi *et al.*, 2023a). However, it is possible to define some minimum peculiarities (Sintomer *et al.*, 2008). This tool must be realised at a level of government with political, administrative and economic autonomy (i.e. municipalities mainly, but also districts) (Sintomer *et al.*, 2013) and, being a "budgeting", must be related to financial and budgetary dimension (Sintomer *et al.*, 2008). As the term "participatory" suggests, it must include some form of public deliberation, in which a fundamental role assumes the two-way communication between citizens and government (Ebdon and Franklin, 2006).

Finally, to ensure the transparency of the whole process, some output accountability is strongly required (Sintomer *et al.*, 2013). In fact, according to the dialogic approach (Brown and Dillard, 2015), PB, like any other form of participation in accounting, must ensure communication and accountability amongst a plurality of stakeholders (Aleksandrov *et al.*, 2018).

4.2 The use of digital tools in the PB

In its earliest versions, PB was only a living process. However, this process has evolved digitally over the years, gaining several benefits (OECD, 2003), such as enlarging the pool of stakeholders participating in the process and allowing the involvement of a more heterogeneous reality.

As explained above, in the case of participatory budgeting, the DTs can be aimed at improving the efficiency of the process (e-government) or empowering citizens' role in the decision-making process (digital governance). Therefore, it is possible to analyse the DTs use in the different PB stages that can be observed in the literature (Mattei *et al.*, 2022; Manes-Rossi *et al.*, 2023a) as follows:

- (1) Initial information and PB initiative: this is the initial process phase, in which citizens, if considered co-producers, or the administration give impetus to the process itself, determining how the topic should be addressed and how information is spread (Mattei *et al.*, 2022). This prodromic phase helps citizens' active participation (Aichholzer and Rose, 2020). DTs in this phase can increase information sharing through a platform, online advertising and social media posts (Sampaio and Peixoto, 2014; Stortone and De Cindio, 2015). In this phase, the platform can also make citizens more active, allowing them to propose the PB intervention area (Mattei *et al.*, 2022).
- (2) Presentation of the proposals: in this phase, citizens can present their own suggestions to be implemented. The recommendations can also be the result of a co-design process with the PA (Mattei *et al.*, 2022). DTs in this phase are fundamental: online platforms or forms help facilitate and speed up the proposal submission to avoid bureaucratic delays (Stortone and Cindio, 2015). However, DTs also have the role of recreating and extending debate in a deliberative process. In this case, interactive forums, specific comment sections or even online brainstorming sessions allow citizens to discuss projects and participate in their design (Aichholzer and Rose, 2020).

- (3) Evaluation of proposals: in this phase, proposals are evaluated according to technical and economic feasibility standards. A technical committee usually does this evaluation; however, citizens can be included in this body (Mattei *et al.*, 2022). Digital platforms or online advertising are used to spread the evaluation results. In addition, the digital platform, through comments or during a video call, can allow citizens to participate in the evaluation (Mæroe *et al.*, 2021).
- (4) Final voting: amongst the various PB steps, the most common use of DTs within PB processes is the possibility to vote online (Sampaio and Peixoto, 2014). This allows citizens to express digitally their preferences (Mæroe *et al.*, 2021). However, in some cases, the final decision is taken by the PA; citizens are only made aware of the vote results through online information.
- (5) Monitoring and effective implementation: an adequate platform may be indispensable to enable citizens to follow the voted-on project's realisation, creating trust in citizens who see the execution of what they have defined as a priority (Mæroe *et al.*, 2021). Furthermore, it allows the administration to update information on the work progress periodically, thus demonstrating that the commitment made to the citizens is being respected, as well as allowing for reporting and explaining any eventual delays (Sampaio and Peixoto, 2014; Stortone and De Cindio, 2015).

All the DTs and the citizens' roles in PB's steps are illustrated in Table 2.

Through observation, DTs analysed under the e-government lens are more characterised by speediness and efficiency (Aichholzer and Rose, 2020). For example, quick satisfaction questionnaires or standardised discussions (like-system, typical of social networks) are thought to better citizens' experience with public services. These instruments provide citizens with quick and accessible services, such as the possibility of uploading proposals that prevent people from going there in person (D'Agostino *et al.*, 2011). Therefore, in these cases, it is clear that citizens are treated as mere users (Cordella and Bonina, 2012), and the participation type these tools can provide is amongst the lowest and simplest (Arnstein, 1969; Fung, 2006).

On the other hand, DTs devoted to creating digital governance are mainly used to improve openness, transparency and engagement (D'Agostino *et al.*, 2011). In this perspective, tools such as creating forums or digital spaces where citizens can exchange views and discuss are fundamental (Jaeger, 2005). Moreover, these tools also enable citizen-governors by providing them with the appropriate information to take an active role. Finally, developing digital proposals allows to the enlargement of the public audience, making it possible to consider more interests (Orelli *et al.*, 2013). In this perspective, consequently, the type of participation established is bidirectional, with greater involvement and a more significant role of citizens (Arnstein, 1969; Fung, 2006).

Nevertheless, it is essential to remember that adding technology to PB is not always necessary or required, and it should not lead to discrimination or lower the quality of participation (Ragnedda and Muschert, 2013). Therefore, a commonly suggested approach is a hybrid method, incorporating both online and face-to-face elements (Sampaio and Peixoto, 2014), which helps remove each system's downsides and harness its advantages. Undoubtedly, using DTs can be very helpful, especially in larger communities where more people need to be involved (Sampaio and Peixoto, 2014). However, focusing on personal relationships might be more effective in smaller communities.

5. Methodology

Given the existing literature and defined the main differences in citizens' role and use of DTs amongst the different managerial paradigms, the research aims to investigate how DTs could impact citizens' role in the PB, observing whether the instruments adopted are consistent

PB phases	Citizen's role	Citizens' activities	Digital transformation phase	Use of digital tools
<i>Initial information and PB initiative</i>	NPM: Users/ Consumers/ Costumers	- Initial information is shared and citizens could not join the definition of the area of interests	NPM: E-government	- Use of online advertising, accessible platforms, and online information sharing to introduce the process
	NPG: Co-governors and co-creators of PV	- Initial information is shared and citizens could participate in the definition of the area of interests	NPG: Digital governance	- Digital platform that allows citizens to find the information, comment, ask questions and says their opinions about the intervention area
<i>Presentation of the proposals – with discussion, co-planning, co-design, deliberative moments</i>	NPM: Users/ Consumers/ Costumers	- Citizens present projects, but are not involve in their developing (no relation with PA and other citizens)	NPM: E-government	- Creating a platform where citizens can upload their projects in a easily and timely way
	NPG: Co-governors and co-creators of PV	- Citizens co-plan and co-design projects, also with PA. They can discuss, debate and share opinions	NPG: Digital governance	- Creating a platform where citizens can upload their projects and they can also participate in co-design, co-planning. A digital public arena is available for citizens to share their opinion (forum, digital meeting etc.)
<i>Evaluation of proposals</i>	NPM: Users/ Consumers/ Costumers	- Citizens are not involved in this phases because is too technical	NPM: E-government	- Publishing online the results of the evaluation on the web-site
	NPG: Co-governors and co-creators of PV	- Citizens co-evaluate the projects with PA, finding solutions if something is not feasible	NPG: Digital governance	- Using a digital platform to share information and make people comment about the evaluation (forum, digital meeting etc.)

Table 2.
Digital tools and citizens' role in PB stages

(continued)

PB phases	Citizen's role	Citizens'activities	Digital transformation phase	Use of digital tools
<i>Final voting</i>	NPM: Users/ Consumers/ Costumers	- Citizens are not involved in this phases, decisions is taken by the administration	NPM: E-government	- Sharing online information about the final decision
	NPG: Co-governors and co-creators of PV	- Citizens are involved in the final decision and express their preferences	NPG: Digital governance	- Making people vote online
<i>Monitoring and effective implementation</i>	NPM: Users/ Consumers/ Costumers	- Citizens are made aware about the implementation, but they are not involved	NPM: E-government	- Publishing online the results of the implementation on the web-site
	NPG: Co-governors and co-creators of PV	- Citizens are actively involved in monitoring the projects' implementation	NPG: Digital governance	- Using a digital platform to share information and make people comment about the evaluation

Source(s): Authors' own elaboration

Table 2.

with citizens taking an active part in value creation. Therefore, the research aim can be summarised as follows:

RQ1. How do ICT tools impact citizens' role in creating public value?

A qualitative approach was used to conduct the study. Specifically, the research is based on an exploratory and descriptive case study (Scapens, 2004). It could be defined as exploratory because it aims to investigate something new self-reflexively, providing innovative methods to analyse reality (Scapens, 2004). This single case study analysis is also descriptive in that, in section 5, the authors explain the PB process (Scapens, 2004).

The case study selected was the first PB implementation in Rome in 2019. It is an exemplary case study suitable for our aim because the PB implementation in Rome was inserted in the broader digitalisation process. Moreover, being the first edition, Rome's is a reality under construction, which can highlight both the positive aspects of the process and the criticalities deriving from the first experience.

The data is analysed through document analysis (Bowen, 2009), particularly applicable to qualitative case studies, producing detailed descriptions of a single phenomenon, event, organisation, or programme (Scapens, 2004). The information is obtained from multiple sources to add rigour, depth, and reliability to this inquiry (Flick, 2004). First, documentation on the PB official web was consulted, including all the technical reports, official reports and all PB-related documents. A detailed of the documents and platform analysed is presented in Appendix. The website itself was also considered as part of the analysis, especially to investigate the DTs implemented by Rome. In addition, some information has been obtained from an ex-post public meeting, which was an opportunity for discussion between politicians, administrative staff and citizens after the participatory process had been completed and the projects had taken over (July 2022).

The PB-related documents and the transcripts of the public meeting and other articles (e.g. De Blasio *et al.*, 2020) were systematically analysed to derive meaning, gain understanding and develop empirical knowledge about the e-participatory budgeting experience in Rome (Bowen, 2009).

6. The Roman case study

6.1 *The iter for PB implementation*

The first PB was promoted by the leading party of the city, the *Movimento 5 Stelle* (M5S), which took power in 2016. The main cornerstones of this party were e-government and active participation. In its official documents, the term e-government is not used as we presented in the previous part of the paper. M5S tried to introduce their innovative ideas in Programmatic Guidelines 2016–2021 of the Mayor, adopted in 2016. Within the area of e-government, they expressly contain the purpose of guaranteeing citizens' satisfaction and improvement of the administration's efficiency and accessibility to data and information *"to guarantee citizens the possibility of knowing, controlling and evaluating the Municipality's work, because this is the basis of the social pact and precondition for the active participation and collaboration of citizens"* (Programmatic guidelines). Another pivotal moment in the journey of PB in Rome was the inclusion of this tool within the statute of Rome's capital city in 2018 (Art. 8-bis of the *Roma Capitale Statute*).

In the political view, PB was to become a very pervasive tool within the administration, as the city of Rome had committed *"to adopt all acts of competence aimed at providing, as a multi-year strategic objective, within the framework of the implementation of the Participatory Budgeting tool provided for in Article 8-bis of the Statute of Roma Capitale, the participation of the community citizen community on at least one-third of the expenses, for the current and/or capital portion of the Budget of Roma Capitale, by the year 2025."* (Agenda No. 34 of April 4, 2019 – attached to proposed resolution No. 29/2019).

In addition, the Programmatic guidelines stated that DTs must also help monitor the outcomes of participatory processing and establish *"a public space – Partecipa Area – on the Rome Capital website"* where people could interact with the public administration. *"This portal aims to facilitate participatory processes"* (Programmatic guidelines).

Afterwards, the first step in making tangible these principles was the establishment of the digital agenda (2017), a strategic plan for digital transition containing the policy planning documents for the period 2016–2021, and the design and development of the "Roma Capitale website" through the implementation of the "Partecipa" area (2018). The first objective of the Digital Agenda was to ensure transparency and accessibility to allow citizens to know, monitor and evaluate the government's action, *a precondition for citizens' participation and active collaboration* (Digital Agenda).

The participatory budget in 2019 was the first official experience in Rome. It was preceded by a "training edition" in 2018 (Deliberation of the City Council 12/2018), limited to one district, which tested the design of the process and the citizens' participation mechanisms introduced in the drafted regulation.

The Roman participatory budget consisted of 20 million euros allocated by the administration for this participatory process. This amount – the highest dedicated to participatory budgeting in Italy – accounts for 0.3% of the Roma Capitale Budget, which was 6.550.913.812 euros in 2020 (Multi-year Budget, 2020–2022). Even if the experience has been the most significant in terms of amount in Italy, it is essential to note that there are experiences in other contexts where the percentage of resources allocated to participatory budgeting is significantly higher – especially in Brazil – reflecting varying commitments to public engagement in budgetary processes across different regions and countries.

6.2 Digital tools and citizens' role in the Roman PB

In this paragraph, the Roman experience was built following the steps in [Table 2](#).

During the initial "Information and PB Initiative", DTs were widely used. The primary hub for information was the institutional website, consistently updated on the homepage and a dedicated PB section, as defined in Article 6 of the "Regulation of the Participatory Budget of Roma Capitale – Deliberation of the City Council 31/2019" (hereafter, the regulation). This space housed all necessary documents and preparatory actions. Consequently, the platform that facilitated information dissemination and public participation was integrated with the official Roman website, managed by the Digital Transformation Department. In addition to this platform, other informational activities were conducted live and online, including direct, personalised emails to nearly 500,000 registered users on the institutional portal, and information spread through social media, mass media (radio and TV), and information stands across the city. Mainly, the municipality extensively used social media platforms like Facebook and Twitter, sharing regular updates and information under the hashtag #RomaDecide. Beyond digital technologies, the initial information phase utilised live tools such as public meetings and distributing 15,000 flyers, 50 posters, and 13-day bus advertisements. In this phase, the citizens were expected to mainly gather information, as the administration had predefined the intervention areas. This is observed in the "Rules for the 2019 Participatory Budget of Roma Capitale – City Council Deliberation 103/2019" (hereafter "Rules of 2019 PB"), where the administration has determined that the intervention was focused on urban décor.

In the second phase, the specially developed internal platform facilitated the submission of ideas and projects by registered users directly on the institutional website. Both individual citizens and groups were encouraged to propose projects, with their eligibility (residents or city users over sixteen) verified either automatically against the electoral roll or through self-declaration, subject to random checks, according to the Regulation and the Rules of 2019 PB. Alongside online submissions, some proposals emerged from co-design efforts during live district meetings, embodying a collaborative effort with various Rome districts (Art. 8 of the Regulation). Despite fostering support through a "like" feature reminiscent of social media, the platform lacked a dedicated online space for discussions and co-design, leaving this aspect to in-person district meetings.

As a result, 193 projects out of 1,521 received a pre-established amount of support and were admitted to the subsequent evaluation stage, together with all projects resulting from focus groups proposed by the district councils (40). The evaluation process considered different aspects, such as environmental impact, urban planning, economic sustainability, and infrastructural considerations. Considering these particular competencies, the evaluation was carried out by a technical committee without the citizens' participation, and the result was published online. There was no way to discuss, comment and debate the evaluation results in this part of the process. At any rate, reports and documents informing people about the evaluation were available to guarantee proper transparency and accountability (for example, see the "final evaluation of the technical committee" in [Appendix](#)).

A total of 111 projects advanced to the "final voting" which was conducted exclusively online, precluding in-person voting. Nevertheless, to combat digital inequality, assistance was rendered to individuals encountering difficulties with utilising ICT tools. Eligible citizens were permitted to endorse up to three projects they favoured for implementation. Throughout the ten-day voting period, the tally of votes accrued by each project remained visible to the public. To delineate the roster of projects slated for implementation, the city of Rome employed a "rank and select" methodology, wherein proposals were prioritised based on the volume of support received, with the highest-ranking proposals selected until the allocated budget was exhausted. In summary, the initiative garnered 36,128 votes from nearly 17,000 participants, culminating in the selection of 65 projects for funding.

After the voting, there was the “monitoring and effective implementation” where people were informed about how the process went, the numbers and which projects were selected. This dissemination of information was chiefly facilitated through a comprehensive final report titled “Documento della Partecipazione”. In addition, the platform was implemented “*by integrating the section dedicated to the 2019 Participatory Budget with special pages dedicated to the progressive monitoring by citizens of the execution of works and interventions to be carried out*” (Agenda No. 168 of December 16, 2019 – attached to proposed resolution No. 152/2019). Citizens could track each project’s step-by-step progress by leveraging continuous updates on the platform. The City of Rome adopted straightforward graphical representations, allocating a dedicated information page for each project to depict its current phase of execution. This page was enriched with photographic documentation, accompanying files, progress notes, objectives, anticipated outcomes, and other pertinent monitoring details. However, looking at the PB regulation, this monitoring phase lacked real discipline. This shortcoming led to a systemic omission of citizen engagement and the required technological tools to facilitate it, as evidenced by the provisions outlined in Article 14, where the active participation of citizens is not explicitly addressed. Citizens also witnessed the lack of this phase at the July 2022 meeting. At that meeting, almost three years after the end of the voting process, only 15 had been realised.

In contrast, the others (43) encountered various issues: some (7) were deemed unfeasible or significantly defunded, 14 require redesign, and the rest are still in the process of implementation. During the meeting, citizens complained that they had lost track of the projects to be realised, as the website was not updated. This became evident from a citizen’s intervention when they said, “*I found out today (during the public meeting) that the project I proposed, which turned out to be the winner, has been heavily defunded*”. In general, they also expressed dissatisfaction with not being informed of the delays at this stage or participating in the technical tables to change the projects.

The overall number of citizens who participated online in at least one of the phases is 46,204 out of a total of 3,689,559 city users (ISTAT, 2022). Looking at the results related explicitly to participation, reported in the “Documento della partecipazione”, it is possible to observe that people preferred using DTs over the in-person alternatives offered by the process. The details of PB’s experience in Rome are contained in Table 3.

However, it is interesting to discuss how citizens’ roles took place in the following paragraph and how digital tools have supported their participation in the process.

7. Discussion

The PB implementation in Rome signifies a monumental shift in the governance dynamics of the Roman administration, representing the apex of a program initiated several years before. This transformative journey is not only discernible through the taken legislative strides, such as statute amendments and the formulation of nuanced regulations that is prominently reflected in Agenda No. 34. This element vividly illustrates the administration’s aspiration to elevate the citizens to a pivotal role, transforming them into public value co-creators and decisive stakeholders in allocating a substantial fraction, approximately one-third of the entity’s expenditures. The intention to foster a collaborative environment where citizens actively participate in governance, thereby steering the direction of financial allocations, showcases a progressive move towards participatory governance (Fung and Wright, 2003). In this context, contrary to what frequently occurs elsewhere (Sønderskov, 2019; Manes-Rossi et al., 2023b), there appears to be an endorsement of power-sharing by politicians, probably because it was a priority already expressed by the Programmatic guidelines of the Mayor, and by public managers who seem to have had a strategic vision.

<i>General information about Rome</i>	
Total city users	3,689,559 users (ISTAT, 2022)
Total expenses (budget 2020) (EUR)	6,550,913,812
<i>General information on PB</i>	
Online participation in any phase	46,204 citizens
Number of votes collected	36,128 votes
Number of voting participants	Approx. 17,000 participants
Budget allocated (EUR)	20,000,000

PB phases	Details about the PB phases	
1° phase – Initial information	Initial Information Distribution:	To approx. 500,000 users
	personal emails	
	Flyers	15,000
	Posters	50
	Retrobus – Bus advertisement	13 days
2° PB phase – Project proposals	Total Number of Project Submissions	1,521 projects
	Projects Admitted to Evaluation Stage	193 projects
	<i>of which: Focus Group Proposed Projects</i>	<i>40 projects</i>
3° phase – Evaluation	Projects Admitted to Final Voting	111 projects
4° phase – Final voting	Projects Selected for Funding	65 projects
5° phase – Monitoring and effective implementation	Projects Realised by July 2022	15 projects
	Unfeasible or Strongly Defunded Projects	7 projects
	Projects Needing Redesign	14 projects
	Projects in implementation	29 projects

Source(s): Authors' own elaboration

Table 3.
Details of Rome PB experience

At the same time, PB was strongly linked to the digitalisation process since the beginning, as DTs were to play a leading role in the process (Manoharan *et al.*, 2023; Calista and Melitski, 2007). This aligns with the statements in the Programmatic Guidelines and the Digital Agenda.

Focusing on the actual implementation, in premise, it is possible to affirm that, according to the existing literature (Sampaio and Peixoto, 2014), Rome adopted a hybrid PB form, allowing people to participate in the preferred format (online or in-person). This has been useful in avoiding creating different types of discrimination and digital inequalities (Ragnedda and Muschert, 2013). Even in the voting phase, which could only be conducted online, the municipality provided support points where citizens could seek help on how to vote. However, after this preamble, it is interesting to investigate the impact of DTs to citizens' role in creating public value during the PB steps. For this reason, Table 4 presents the same structure as Table 2, with information related to Rome's experience. The first column summarises the PB Roman experience in its various steps. The second column highlights the citizen's role in black, based on the narrative. The same approach is also used in the third column with the use of the digital tools.

Looking at the first stage, one can observe that citizens are entirely passive, as they are not involved in deciding how to design and implement the whole PB (Mattei *et al.*, 2022). This citizens' role is also reflected in the DTs' use, whose central function is to share information, allowing people to access information more efficiently and cost-effectively (Orelli *et al.*, 2013; D'Agostino *et al.*, 2011; Meijer, 2015). DTs do not allow any interaction of citizens with the administration and vice versa. In addition, the initial digital information has been thought to capture a more extensive audience and improve transparency and openness of the process, as

PB phases	Citizen's role	Citizens'activities	Digital transformation phase	Use of Digital tools
<p><u>Initial Information and PB Initiative</u></p> <p>Information is mainly spread through online means (PB official web-sites; social networks and personalised emails), but also alive ones. Intervention Area are defined by the Administration.</p>	<p>NPM: Users/Consumers/Costumers</p> <p>NPG: Co-governors and co-creators of PV</p>	<p>- Initial information is shared and citizens could not join the definition of the area of interests</p> <p>- Initial information is shared and citizens could participate in the definition of the area of interests</p>	<p>NPM: E-government</p> <p>NPG: Digital governance</p>	<p>- Use of online advertising, accessible platforms, and online information sharing to introduce the process</p> <p>- Digital platform that allows citizens to find the information, comment, ask questions and says their opinions about the intervention area</p>
<p><u>Presentation of the proposals - with discussion, co-planning, co-design, deliberative moments</u></p> <p>Presentation of the proposals must be analysed dividing the online and alive process: Online process: citizens could present their own proposals and could only allow to support other projects with a "like system" Alive process: citizens could participate in the focus group, organized by the districts, to co-design the projects to be presented</p>	<p>NPM: Users/Consumers/Costumers</p> <p>NPG: Co-governors and co-creators of PV</p>	<p>- Citizens present projects, but are not involved in their developing (no relation with PA and other citizens)</p> <p>- Citizens co-plan and co-design projects, also with PA. They can discuss, debate and share opinions.</p>	<p>NPM: E-government</p> <p>NPG: Digital governance</p>	<p>- Creating a platform where citizens can upload their projects in a easily and timely way</p> <p>- Creating a platform where citizens can upload their projects and they can also participate in co-design, co-planning. A digital public arena is available for citizens to share their opinion (forum, digital meeting etc.)</p>
<p><u>Evaluation of proposals</u></p> <p>Technical Evaluation is made by a technical committee. Citizens are not involved. Information is online spread.</p>	<p>NPM: Users/Consumers/Costumers</p> <p>NPG: Co-governors and co-creators of PV</p>	<p>- Citizens are not involved in this phases because is too technical</p> <p>- Citizens co-evaluate the projects with PA, finding solutions if something is not feasible.</p>	<p>NPM: E-government</p> <p>NPG: Digital governance</p>	<p>- Publishing online the results of the evaluation on the web-site</p> <p>- Using a digital platform to share information and make people comment about the evaluation (forum, digital meeting etc.)</p>
<p><u>Final voting</u></p> <p>People vote to define their preferences to be implemented. This phase is completely online, even if help centers are provided.</p>	<p>NPM: Users/Consumers/Costumers</p> <p>NPG: Co-governors and co-creators of PV</p>	<p>- Citizens are not involved in this phases, decisions is taken by the administration</p> <p>- Citizens are involved in the final decision and express their preferences</p>	<p>NPM: E-government</p> <p>NPG: Digital governance</p>	<p>- Sharing online information about the final decision</p> <p>- Making people vote online</p>
<p><u>Monitoring and effective implementation</u></p> <p>Citizens have not a role in this phase. Information is online spread, but citizens have not the possibility to comment, discuss and ask for information.</p>	<p>NPM: Users/Consumers/Costumers</p> <p>NPG: Co-governors and co-creators of PV</p>	<p>- Citizens are made aware about the implementation, but they are not involved</p> <p>- Citizens are actively involved in monitoring the projects' implementation</p>	<p>NPM: E-government</p> <p>NPG: Digital governance</p>	<p>- Publishing online the results of the implementation on the web-site</p> <p>- Using a digital platform to share information and make people comment about the evaluation</p>

Table 4.
Digital tools and citizens' role in PB stages in Rome

Digital Agenda suggests (Calista and Melitski, 2007). In this sense, DTs have improved the efficiency of the stage and enabled citizens to fulfil personal information needs, but they have not allowed them to take a more central role in defining the crucial aspects of the process. In particular, the lack of citizens' participation in defining the intervention area prevented them from actively acting in the process to serve the interests of the community, relegating them to a user role (Osborne et al., 2016).

By focusing on the second step, a discernible evolution in the role of citizens during the project proposal phase was witnessed, pivoting markedly depending on the interaction mode – online or in-person. In in-person environments, citizens found themselves vested with a more dynamic and participatory role, where they could engage in direct dialogues with the

administration, thereby playing an active role in the design and conceptualisation of projects. This face-to-face engagement facilitated a more vibrant and interactive relationship where ideas could be exchanged and refined through mutual discourse (Mattei *et al.*, 2022; Manes-Rossi *et al.*, 2023a). In this case, citizens emerged as representatives of collective interests and, through dialogue, assumed the role of co-producers in developing proposals, generating value for the community (Osborne *et al.*, 2016).

Contrastingly, the online sphere manifested a less dynamic role for the citizens. As expressed by the regulation, the virtual process did not envision or facilitate active interaction between the administration and the citizens, nor amongst the citizens themselves. This was palpably evident in the tools designated to support this phase, which predominantly encompassed forms and compilation instruments for project uploading, with only a limited provision to endorse other projects through “like” functionalities (Sampaio and Peixoto, 2014; Stortone and De Cindio, 2015). These functions were to facilitate the process itself, improving the experience of citizens as users (Calista and Melitski, 2007; Thomas, 2013) and, ultimately served citizens to satisfy their own interests, such as minimising time expenditure or directly proposing projects tailored to their personal needs (Vigoda, 2000). The online platform conspicuously lacked dedicated forums or spaces where citizens could engage in vigorous discussions and deliberations, either with the administration or amongst themselves, thereby constraining the potential for a more enriched and collaborative project development process. Thus, the digital environment inadvertently engendered a more passive role for the citizens, hindering a fully realised participatory democracy within the initiative and reducing participation to tokenism (Levenda *et al.*, 2020). Moreover, the lack of digital discussion highlighted a certain individualistic approach in the modalities, which is not well-aligned with the collaborative ethos required to co-create public value (Osborne *et al.*, 2018).

In the evaluation stage, it is discernible that citizen involvement is visibly absent, a stance that starkly contradicts the tenets of participatory governance (Fung and Wright, 2003). As reflected in the final evaluation document of the technical committee, the digital aspects integrated within this phase appear to serve a limited function, predominantly facilitating information acquisition rather than harnessing the expansive capabilities of digital platforms to encourage participatory deliberation and enriched civic engagement (Mattei *et al.*, 2024). Again, citizens were the target audience of the stage and were not involved in its implementation, thus not taking any active role in public value co-creation (Thomas, 2013).

During the voting phase, all city users were allowed to define the list of projects to be implemented. In this sense, the e-voting tools broaden the participants’ audience, as defined by the final reporting. This aspect was emphasised probably because this use of DTs in the voting allowed for greater participation without wasting resources and time (Sampaio and Peixoto, 2014). At this stage, citizens were allowed to define what, downstream of all the previous steps, they believed to be what needed to be implemented for the common good. This was also evident from the fact that citizens have the opportunity to vote on multiple projects.

Finally, relating to the monitoring and effective implementation, one can observe that both the regulations and the digital tools were unsuitable to enable citizen involvement at this stage. In fact, from a regulation perspective, citizens are not at all covered in the post-voting settings. As for the DTs, these were implemented late (as observable from Agenda No. 168). In any case, they only fulfil an informational role and do not allow active participation in public value creation.

Therefore, focusing on the actual practice, the PB execution appears to have deviated from its initial premises regarding the role ascribed to citizens in the process and the support provided by DTs in elevating citizens to a co-governance status. This disparity signals a potential gap between the envisaged participatory governance model and the realised outcomes, with DTs possibly falling short of facilitating substantive citizen engagement in the administrative processes, as digital governance principles affirm (Dunleavy *et al.*, 2006). By concentrating on DTs, the following considerations can be made:

- (1) Examining nearly all the stages, it becomes evident that DTs have predominantly functioned in a unidirectional function. They predominantly facilitated the transmission of information from the administration to the citizens during the initial information dissemination, evaluation, and monitoring phases or served as a medium for citizens to submit their proposals during the project presentation stage (Manoharan *et al.*, 2023). Notably absent, however, was utilising these digital resources to foster a substantive dialogue between the administration and citizens or to encourage a proactive role for citizens — components quintessential in realising a robust digital governance framework (Manoharan *et al.*, 2023). This observation suggests a notable divergence from the participative and interactive essence central to digital governance's conceptualisation (Dunleavy *et al.*, 2006; Manoharan *et al.*, 2023).
- (2) Investing in the role of the DTs, we find that it has often fulfilled a task of greater efficiency, as envisioned in the e-government perspective (Orelli *et al.*, 2013; D'Agostino *et al.*, 2011): more speed, cost and time saving, and greater focus on numbers rather than quality of participation (as demonstrated by the structure of the final report).

Relating to how citizens' deliberation is created, identifying the main problem of PB in Rome becomes clearer. In fact, DTs devoted to creating discussion and debate do not serve this purpose, which is paramount in participatory governance (Fung and Wright, 2003). The only deliberative DT left is the possibility of leaving a "like" on a presented project, a quick and easy mechanism, but not very incisive in developing critical debate. This is an iconic case where the tools meet the needs of the citizen/user, who wants to ensure an efficient and fast service, but not the citizen/co-producers, who has no way to express his/her opinions and engage in constructive discourse. This lack is undoubtedly attributable to the platform's shortcomings, which did not provide for comment and debate sections but only support mechanisms through likes, thus preventing the implementation of a solution deliberative generation. Comparing the platform characteristics in Rome with those typically used in large cities (e.g. Decidim in Barcelona), it is possible to realise that these spaces could be included in several phases, e.g. when proposing projects, evaluating and monitoring projects' implementation (Reiz *et al.*, 2022; Mattei *et al.*, 2024). In addition, the process and DTs have not been able to guarantee continuous citizen engagement. Instead, they were no longer considered in the post-voting stages due to deficiencies in the regulation and lack of information updating.

Therefore, in examining the citizens' role in the public value creation, it is evident that value has been generated through enhanced service efficiency, as demonstrated by efforts to expedite, streamline, and simplify participation in the process. In this scenario, DTs have facilitated this vision by making the process more efficient or "smarter". Examples of this may include information sharing at all stages, online proposal uploading, and online voting. However, the opportunity for citizens to act as co-creators of public value, sustaining common interests and cultivating value through debates, has been infrequent, especially in the digital sphere. Examples of this may be the lack of a digital deliberation process to debate the projects to be implemented or the lack of citizen involvement in the evaluation and monitoring stages. Consequently, in certain stages, such as the presentation of the proposals phase, DTs have arguably reduced the role of citizens rather than empowering them as active participants in the value-creation process.

In conclusion, one can assume that despite the pre-existing structural deficiencies in citizen involvement within Rome's PB, the integration of DTs has not adequately addressed these issues. Whilst these tools have facilitated some improvements in process efficiency, they have not succeeded in enhancing the active role of citizens in governance, and,

ultimately, they did not allow citizens to assume their role as co-creators of public value. Regrettably, during the crucial phases of deliberation and co-design, these tools diminished the participatory power, failing to transform citizens into active contributors to create public value (Manoharan *et al.*, 2023).

8. Conclusion

E-participatory budgeting is one of the latest innovations in citizens' engagement, making the participation of citizens in budgeting processes broader and more direct (Sampaio and Peixoto, 2014; Stortone and De Cindio, 2015). The key element that enables greater empowerment of people within the process is the presence of tools that increase interaction between citizens and the administration, as well as amongst citizens. Therefore, this is seen as a process capable of realising public value in a shared way, with citizens taking on the role of co-creators.

The case study presented in this research showed that implementing e-participatory budgeting in a hybrid format avoids discrimination and digital inequalities, as shown in the literature (Ragnedda and Muschert, 2013). However, this could not be sufficient for realising a process that makes citizens protagonists in public value creation.

In response to the RQ1 "*How do ICT tools impact citizens' role in creating public value?*", it is possible to observe that DTs have primarily been used to support citizens as users, according to the e-government perspective (Thomas, 2013). Indeed, DTs provided some positive features, such as the participants' audience improvement, increased information sharing, and reduced cost and waste of time. However, DTs have not been able to accomplish their role from a digital governance perspective. Whilst the procedural outline theoretically envisaged empowering citizens to ascend to the position of co-governors, this vision has not been fully realised in practice and public value produced was limited to improving the efficiency of the service, as in the NPM view (Moore, 1995). The DTs employed predominantly served the functions of e-government, satisfying personal interests rather than embodying the collaborative essence of digital governance, where citizens should be bearers of collective interests (Osborne *et al.*, 2016). This deviation is manifest from intense scrutiny of the regulation and rules of the 2019 PB, where the centrality of citizens' roles has some gaps.

Furthermore, the DTs deployed not only failed to improve this deficiency but appeared to further constrict avenues for fruitful dialogue and engagement. In particular, DTs reduced the participatory power of citizens, falling in transforming them into active producers in the creation of public value. This resulted in a scenario where the potential of DTs to enhance citizen involvement and co-creation in public value processes was not fully realised.

Consequently, the Roman case study underscores a pivotal lesson: the significance of adopting DTs extends beyond merely enhancing procedural efficiency. Equally crucial is the integration of platforms that facilitate active citizen participation in public value creation, such as forums and digital spaces for discussions and exchanges of opinions with the administration. This integration fosters a governance model that embodies the participatory spirit envisioned in digital governance paradigms.

The present study investigates in detail the DTs in public value creation, indicating the different facets that they could have and their impact on the citizens' role (Dunleavy *et al.*, 2006; Manoharan *et al.*, 2023). Reconnecting with the theme of digital support for public value creation, it investigates a particular case (participatory budgeting), allowing it to delve into the most relevant elements for DTs to support citizens co-creators. In particular, DTs must be focused on building public spaces where dialogue amongst citizens and between citizens and the administration can occur. It is not enough for them to be used solely to satisfy the typical needs of citizens/users for greater efficiency. In this light, this paper attempts to clarify which attributes of digitalisation can positively influence citizens' role in every PB step.

This study also has utility for practitioners, as it analyses and highlights the critical issues encountered if digital tools are not suitable for elevating the citizens' role, with specific reference to participatory budgeting but extendable to any other participatory process.

The limitation of the present research lies in its focus on a single PB experience. Whilst this approach allows for an in-depth examination of the specific case, it limits the generalisability of the findings across different contexts. To address this limitation, future research could embark on a long-term study to assess the sustained impact of DTs on public value creation in PB. Such studies would involve tracking changes in citizen engagement, policy outcomes, and community development over extended periods. Furthermore, additional research could investigate how DTs facilitate public value creation in PB across various cultural, political, and socio-economic contexts. This could yield valuable insights into the adaptability and effectiveness of DTs in a wider range of settings, providing a more comprehensive understanding of their role in enhancing participatory governance. Another area for improvement is that the analysis was based on comparing the elements cited in the literature and the document analysis of what was effectively implemented, leaving out the opinion of citizens directly involved in the process. As such, future studies could be interested in their opinion about using DTs in the PB.

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Appendix

Citizens and digitalisation for public value

Documents	Topic	Date of observation	Link
<i>Regulation of the participatory budget of Roma capitale – Deliberation of the city council 31/2019</i>	General PB rules	2023–04–15	https://www.comune.roma.it/web-resources/cms/documents/Deliberazione_Assemblea_Capitolina_n_31-2019.pdf
<i>Rules for the 2019 participatory budget of Roma capitale – Deliberation of the city council 103/2019</i>	Specific rules for 2019 PB	2023–04–15	https://www.comune.roma.it/web-resources/cms/documents/Deliberazione_della_Giunta_Capitolina_n.103_del_31_maggio_2019.pdf
<i>Documento della partecipazione</i>	Report on the participatory budgeting experience	2023–04–17	https://www.comune.roma.it/web-resources/cms/documents/Documento_della_Partecipazione_BP19.pdf
<i>Programmatic guidelines 2016–2021 for the government of Roma capitale</i>	Mayor Programmatic Guidelines	2023–04–18	https://www.carteinregola.it/wp-content/uploads/2016/07/raggi_linee_guida.pdf
<i>Digital agenda of Roma capitale 2017–2021</i>	Programmatic Guidelines about digitalisation in Rome	2023–04–18	https://www.comune.roma.it/servizi2/deliberazioniAttiWeb/showPdfDoc?fun=deliberazioniAtti&par1=R0NE&par2=MjM5OA==
<i>Roma capitale statute</i>	Art. 8-bis regarding participatory budgeting	2023–04–18	https://www.comune.roma.it/web-resources/cms/documents/STATUTO_di_ROMA_CAPITALE.pdf
<i>Agenda no. 34 of April 4, 2019 – attached to proposed resolution no. 29/2019</i>	Agenda report of the City Council – PB objective by 2025	2023–04–17	https://www.comune.roma.it/servizi2/deliberazioniAttiWeb/showPdfDoc?fun=deliberazioniAtti&par1=QVk=&par2=MjA2OQ==
<i>Agenda no. 168 of December 16, 2019 – attached to proposed resolution no. 152/2019</i>	Agenda report of the City Council – Implementation of the web-sites for the monitoring	2023–04–17	https://www.comune.roma.it/servizi2/deliberazioniAttiWeb/showPdfDoc?fun=deliberazioniAtti&par1=QVk=&par2=MjIwMw==

(continued)

Table A1.
Documents and websites consulted

Documents	Topic	Date of observation	Link
<i>Final evaluation of the technical committee</i>	Evaluation of the proposals that have been admitted to the evaluation phase	2023-04-15	https://www.comune.roma.it/web-resources/cms/documents/Esito_lavori_Tavolo_di_valutazione.pdf
<i>Roma "Partecipa" platform</i>	Platform for the monitoring	2023-04-17	https://www.comune.roma.it/web/it/processo-partecipativo.page?contentId=PRP322060
<i>Multi-year budget 2020-2022</i>	Budget for 2020-2022 period	2023-04-15	https://www.comune.roma.it/web-resources/cms/documents/100_-_Bilancio_di_previsione_finanziario_2020-2022.pdf
<i>Guidelines of the participatory process related to the "Plan of Urban planning and redevelopment of the areas of "Piazza dei Navigatori and Viale Giustiniano Imperatore" – Deliberation of the city council 12/2018</i>	Deliberation about the PB "training experience" in 2018	2023-04-16	https://www.comune.roma.it/web-resources/cms/documents/Deliberazione_Assemblea_Capitolina_n_12-2018.pdf

Table A1.

Source(s): Authors' own elaboration

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