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# THE IMPORTANCE OF A HUMAN-CENTERED APPROACH IN PUBLIC PARTICIPATION TO DEVELOP CITIZEN-ORIENTED SMART NEIGHBORHOODS

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In order to be truly citizen-oriented, a smart city must be constantly looking for ways to meet the needs of its citizens, highlighting their value as urban solution developers. In order to truly meet the needs of citizens, it is important to involve them in the planning and development of urban regeneration processes. This generates greater trust between citizens and public administrations and a greater sense of belonging. However, "citizen" is a heterogeneous and highly-contested term. Consequently, in many cases public administrations struggle to properly engage citizens. Hence, to better engage the citizens in public participation processes, it is necessary to contemplate their entire participation experience with a human-centered approach. Therefore, a framework that prioritizes their needs and desires to develop tailormade solutions for urban design is required. This article aims to shed light on the human factors influencing the public participation experience. It presents a first model of participation that defines the key actors to be considered in urban regeneration processes. This model is part of the DrOp project, funded by the European Union, which aims to develop a citizen-centered urban renewal methodology to transform the Santa Ana neighborhood of Ermua into a smart and inclusive neighborhood.

Keywords: smart city; human-centered design; public participation; citizen engagement

#### LA IMPORTANCIA DEL ENFOQUE CENTRADO EN LAS PERSONAS EN LA PARTICIPACIÓN CIUDADANA PARA DESARROLLAR BARRIOS INTELIGENTES ORIENTADOS A LA CIUDADANÍA

Para estar orientada a la ciudadanía, una ciudad inteligente debe buscar formas de responder mejor a las necesidades de su ciudadanía poniendo en auge el valor de la ciudadanía como desarrolladora de soluciones urbanas. Para satisfacer las necesidades de la ciudadanía, es importante implicarla en la planificación y desarrollo de los procesos de regeneración urbanos, generando una mayor confianza entre la ciudadanía y las administraciones públicas y un mayor sentido de pertenencia. Sin embargo, "ciudadanía" es un término heterogéneo y muy controvertido. En consecuencia, las administraciones tienen dificultades para implicarla. Para una participación más satisfactoria, es necesario contemplar toda la experiencia con un enfoque centrado en las personas. Esto requiere de un marco que dé prioridad a sus necesidades para desarrollar soluciones a medida. Este artículo pretende arrojar luz sobre los factores humanos que influyen en las experiencias participativas. Presenta un primer modelo de participación que define los actores clave a tener en cuenta en un proceso de regeneración urbana. Este modelo forma parte del proyecto DrOp, financiado por la Unión Europea, cuyo objetivo es desarrollar una metodología de renovación urbana centrada en la ciudadanía para transformar el barrio de Santa Ana de Ermua en un barrio inteligente e inclusivo.

Palabras clave: ciudades inteligentes; diseño centrado en las personas; participación ciudadana; implicación ciudadana

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# 1. Introduction

The Smart City is a booming concept which has grown exponentially since 2010. Smart Cities are described as cities that perform in an innovative way in the following domains: governance, people, mobility, economy, environment and lifestyle (Giffinger et al., 2007). In many cases, the concept of Smart Cities is linked to the digital world, specifically in terms of the use of sensors to collect data about their citizens (Mora et al., 2017). Nevertheless, the "smart" of Smart City also refers to the attitudes that touch upon the awareness and independence of citizens (Manville et al., 2014; Alonso & Castro). Thus, a Smart City is developed according to a shared code of values and it refers to a citizen-centered model in which the relationships between its inhabitants and the relation between citizen and space are stressed.

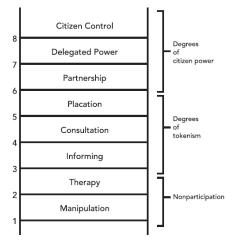
Citizen Centricity is a concept that has increased considerably since the European Commission adopted a new plan in 2015 to ensure work possibilities, growth, development of a competitive economy, carbon neutrality and the responsible use of resources. The vision of the European Commission is that the European Union (EU) should become an innovative, collaborative, sustainable and people-centered economy, in a planet that is overpopulated and limited in resources (European Commission, 2023).

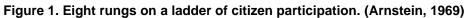
Thus, putting the citizens at the center of the city renewal process is critical to creating liable, sustainable and equitable cities that serve the needs of all residents. (Willems et al., 2017) The acquisition data and information from the citizens is essential for the strategic planning and sustainable development of Smart Cities. The absence of such data, generated either by or in collaboration with citizens, jeopardizes the effective implementation and success of Smart City initiatives (Goodchild, 2007). In addition, citizens are the beneficiaries of the values which Smart Cities can deliver as well as the consumers, hence, responsible for the development of the cities. (Lim et al., 2018).

To successfully implement a Citizen Centricity approach in cities it is necessary to prioritize citizens' demands in the design and delivery of public services (Berntzen et al., 2016a; Kamalia & Nor, 2017). To do so, cities and public administrations need to highlight the value of their citizens as urban solution developers, involving them in the planning and development of Smart Cities. However, city administrations often lack the necessary information on how to promote citizen participation and engage citizens throughout participation processes to design and develop services to turn their cities into Smart Cities. (Correia, 2023)

#### 1.1. Citizen involvement

One of the first scholars to define different levels of participation was Sherry Arnstein (Arnstein, 1969). She defined the 'Ladder of Participation' (see Figure 1), differentiating eight levels of participation among citizens. The two bottom rungs are identified as non-participatory practices, as they only involve the citizens as spectators and have no power whatsoever. The next two levels, informing and consulting, are identified as tokenism. These give the people a voice in the process, but this is merely symbolic. The fifth level, placation, though also considered as part of the tokenism rungs, allows citizens to offer advice in different matters, even though they do not have the right to decide. The final three degrees (Partnership, Delegated Power and Citizen Control) are the ones that really consider citizens as decision makers, empowering the public by giving them the ability to decide in the planning and design process of city projects.





Over the years, many other theories have emerged in the form of improved ladders (Luyet et al., 2012; Stauffacher et al., 2008), cubes (Fung, 2006) or conceptual frameworks (Fritz & Binder, 2018; Hofer & Kaufmann, 2022). These theories aim to assess the degree of citizen engagement in a participation process. However, despite their usefulness in understanding the current state of citizen engagement, these theories do not offer concrete guidelines for improving it. They are mere assessment tools that do not increase accessibility to information and communication channels, which enhance engagement and provide meaningful opportunities for input and decision-making as well as addressing barriers to participation, among others.

# 1.2. Santa Ana neighborhood, Ermua

This paper and its results are framed within the drOp project. This is a project funded by the European Union that has the aim of providing an integrated methodology that is intended to transform social housing districts into inclusive smart neighborhoods through citizen participation processes. The methodology will be tested in a case study in the neighborhood of Santa Ana in Ermua, a residential neighborhood made up of a series of buildings constructed in the 1960s. It is a small neighborhood on the slope of a mountain, with 40 buildings and 873 inhabitants.

# 2. Objectives

The main aim of the current study is fostering citizen participation in the design and development of services for the transformation of urban areas into Smart Cities. Specifically, it focuses on enhancing citizen engagement throughout the participation processes. By the same token, the study presents a first model that defines the key actors and their roles and implications in a participatory process for service development.

To this end, it has the following sub-objectives:

- To provide a comprehensive review and analysis of existing theoretical frameworks for public participation.
- To identify best practices and areas of improvements of processes developed in the municipality of Ermua.

- To develop a preliminary framework that addresses these processes from a citizencentered point of view.

# 3. Methodology

The methodology followed in this paper is divided into three different phases: (i) a literature review of public participation processes, (ii) desk research of internal documentation of previous participation processes in Ermua and (iii) qualitative interviews with key officials from Ermua city council.

Firstly, with the objective of making a first approach to the topic an exploratory literature review of participation models was developed. Initially the keywords and searching databases were defined, which are: ("public participation" OR "citizen participation" OR "citizen engagement" OR "public engagement" AND model OR framework OR method); and (Scopus, WoS and Egineering Village). Once the list of articles was obtained, the first step was to identify and eliminate duplicates. Subsequently, articles were included or excluded according to the selection criteria, by reading the titles and abstracts. The selection criteria were: (i) it responds to challenges and barriers of public participation (ii) it is human center oriented (iii) it is written in English and (iv) it is published as a journal article. Finally, those articles that passed the selection were thoroughly and critically read. Consequently, 12 articles were identified, allowing us to articulate a preliminary framework.

Secondly, desk research was carried out with a view to analysing previous participation processes performed in Ermua. To this end, the documentation of six different processes was studied, looking in particular at their phases, key actors and limitations. This served to understand better the community in which the case study is going to take place and how the previous participation processes were managed in the city council.

Lastly, qualitative interviews were conducted with key officials from the municipality of Ermua that took part in the processes mentioned beforehand. This helped to understand the processes more deeply, especially the interactions, relevance and roles of the different actors that took part. The interviews were semi-structured and lasted 1-1.5 hours. They were recorded, transcribed, and saved with the codification established in the project data management plan.

# 4. Results

This section introduces and compares key factors between the literature review, the desk research and the qualitative interviews and provides an overview of the best practices and areas of improvement. To conclude, a preliminary framework to foster citizen participation is presented.

#### 4.1. Literature review

Table 1 shows participation models that involve citizens in the development of public services. According to the topic addressed by each model, as can be seen in the second column, Luyet et al. (2012), Reed (2008), Wilker et al. (2016) and von Korff et al. (2010) use participation processes to address environmental challenges. Kalandies (2018) utilizes it for policy assessment, such as public budgeting or law making. Mahajan et al. (2022) and Massey et al. (2018), meanwhile, focus on participatory business models and participatory resilience. Lastly, Nguyen Long et al. (2019), Leminen (2013), Gascó (2017), Preston et al. (2020) and Röder &

Tautges (2004) propose methods that instead of focusing on the purpose of the process focus on the means to achieve its purpose, such as co-creation, living labs or ICTs.

Regarding the phases of these processes, as is detailed in the third column of Table 1, scholars have varying opinions on the number of phases and the specific terminology used to describe it. For example, von Korff et al. (2010), only refers to three different phases that start with an analysis and end up with the planning of the participation. In ICT supported processes, Röder & Tautges (2004) also refers to only three phases, starting with the preparation and ending up with its realization. Luyet et al. (2012), Wilker et al. (2016), and Reed (2008) proposed a fivephase approach that encompasses a range of activities, beginning with the identification of stakeholders and concluding with the implementation of participatory techniques. Mahajan et al. (2022) also refers to five phases, starting with the definition of goals and expectations and ending up with the sharing and feedback. When it comes to living labs, Nguyen Long et al. (2019), Leminen (2013) and Gascó (2017) refer also to five phases, from the management of the process up to its development and implementation. Preston et al. (2020) refers to six different phases, from analysis of the current situation up until the description of the resources. In the case of Massey et al. (2018), each phase refers to identifying each of the concepts of the business model, from the customers up to the cost structure. Lastly, Kalandies (2018) refers to eight phases that take into account the different aspects of policy making to define each of them, from the intentionality to the interconnections.

Despite variations in the number of phases and their nomenclature, every process typically entails an initial phase focused on defining the activities that precede citizen involvement. These activities may include stakeholder identification or contextual analysis. In the next phases citizens are actively involved in the design and development of the solutions. Finally, in the last phases conclusions about the process are drawn and feedback is provided to the citizens. Thus, the processes can be clearly divided into three different stages: the pre-citizen involvement stage, the project development stage and the post-project feedback stage.

Analyzing the pre-citizen involvement stage, many of them start with the identification of stakeholders (Kalandides, 2018; Luyet et al., 2012; Reed, 2008; Wilker et al., 2016) or stakeholder analysis (Massey et al., 2018; von Korff et al., 2010). Others start with a wider analysis phase, taking into account the context or current situation of the neighborhood in question (Mahajan et al., 2022a; Preston et al., 2020; Röder & Tautges, 2004). Others focused on the management of the process itself (Gascó, 2017; Leminen, 2013; Nguyen Long et al., 2019), such as gathering of information about the context of the project, both about the physical space and the neighbors. However, mostly, they lack a phase that assists public administrations in understanding how to internally organize and lead in order to develop a successful participation process, such as the characteristics of the technical team or the steps to start the engagement. have a first phase.

Focusing on the project development stage, each process has different nomenclatures and number of phases. Nevertheless, all of them refer to the identification of stakeholders, their management, the planning of the participation techniques and, in some cases, their implementation. Some of them even link the process to the level of involvement that each stakeholder has in each of the phases (Luyet et al., 2012; Reed, 2008; Wilker et al., 2016). However, these processes typically emphasize the phase of the process that directly involves citizens and may overlook the internal management of the process, including the specific roles and responsibilities of each of the other actors involved in each phase.

Regarding the post-project feedback stage, most of the analyzed processes end with the implementation of the techniques, lacking a phase that refers to what happens once the

process is finished. Once they plan and implement the techniques, there is no room for feedback or comeback. The citizens do not get any information on what has happened with their propositions nor their solutions. Among the analyzed processes, only one (Mahajan et al., 2022) has a last phase called knowledge sharing and feedback, which refers to giving something back to the citizens and closing the loop of the process.

In the fourth column of Table 1, the approach of the process is addressed, whether it is process oriented or actor-oriented. We define a process-oriented approach when the process understand citizen as another unit similar to participation techniques or spaces. On the other hand, if a process is actor-oriented, the citizen engagement is considered throughout the entire participation process. This means that the participation process is driven by the needs, expectations and experiences of citizens.

N٥	Theme	Phases	Approach	Authors
1	ICT-supported participation	<ul><li>(i) Process preparation, (ii) Process design, (iii) Process realization</li></ul>	Process- oriented	Röder & Tautges, 2004
2	Participation for water management and beyond	(i) Decision analysis, (ii) Stakeholder analysis, (iii) Participation planning	Process- oriented	Von Korff et al., 2010
3	Participation for environmental processes	<ul> <li>(i) Stakeholder identification, (ii) Stakeholder characterization, (iii) Degree of involvement definition, (iv) Choice of participatory techniques, (v) Implementation of participatory techniques</li> </ul>	Process- oriented	Reed, 2008; Luyet et al., 2012; Wilker et al., 2016
4	Living labs	<ul> <li>(i) Management, (ii) Needs identification, (iii)</li> <li>Solutions' proposals, (iv) Supports'</li> <li>provision, (v) Development and</li> <li>implementation</li> </ul>	Actor- oriented	Nguyen Long et al., 2019; Leminen, 2013; Gascó 2017
5	Business model for public participation	<ul> <li>(i) Customer segments (stakeholders), (ii)</li> <li>Value proposition, Customer relations and Channels, (iii) Revenue streams and Key activities, (iv) Key partners, Key resources and Cost structure</li> </ul>	Process- oriented	Massey et al., 2018
6	Participation for policy assessment	<ul> <li>(i) Subject, (ii) Intentionality, (iii) Object, (iv)</li> <li>Scale, (v) Form, (vi) Locus, (vii) History,</li> <li>(viii) Interconnections</li> </ul>	Process- oriented	Kalandides, 2018
7	Co-creation in smart cities	<ul> <li>(i) Analysis of the current situation, (ii)</li> <li>Definition of messages, (iii) Target audience and expected outreach, (iv) Tools and mechanisms, (v) Action plan for citizen engagement, (vi) Description of resources</li> </ul>	Process- oriented	Preston et al., 2020
8	Participatory resilience	<ul> <li>(i) Define goals and expectations, (ii) Create inclusive environment for participation, (iii) Map key actors of the community network, (iv) Understand structural relationships, (v) Knowledge sharing and feedback</li> </ul>	Actor- oriented	Mahajan et al., 2022

#### Table 1. Public participation processes

#### 4.2. Participation in Ermua

In order to complement the information gathered from the literature and focusing on the municipality in question, some research was performed into how previous participation processes were developed.

#### a) Desk research

To begin with, the documentation that the municipality had in six participation processes was analyzed, all carried out within the municipality of Ermua between 2015 y 2022. These processes were selected since were the only processes carried out in Ermua that required a continuous participation, dismissing the projects in which the participation implied more punctual features. Four out of the six processes were part of a municipality project that has already ended, whereas two of them are still in progress, answering to a different challenge every year.

In the cases analyzed, the citizens were involved in an early phase of defining the scope of the project and identifying needs as well as in the generation and development of possible solutions. Also, the contact with the city council was through the technical team in charge of the project. This was crucial to facilitate the self-management of the transforming action, so that it is carried out independently of the changes in the management of the city council.

Regarding the participation, according to the reports, they were successful processes with positive outcomes and the expected results were accomplished. However, the only processes that have an involvement that reflects an adequate cross-section of the citizenry were the two processes that are still ongoing. In the other four processes, even though the results were positive, the participation was less than anticipated. This being so, deeper research was carried out into both of the ongoing processes, to analyze how this involvement was achieved.

Furthermore, there were two distinct roles among the citizens who participated in the processes: (i) stable groups and (ii) occasional participants. One the one hand, there were the citizens that were part of a group that was stable throughout the entire project. A stable group refers to a consistent and organized group of individuals who are actively engaged and regularly participate in the process over a sustained period. These individuals may have a shared interest, goal, or purpose related to the process. Thus, the stable groups would be positioned on the sixth rung of the 'Ladder of Participation' mentioned beforehand (Partnership), since they worked hand in hand with the technical team in the design and development of public services and have the capacity to influence actions and outcomes. On the other hand, there were occasional participants who took part in specific occasions. In this case, the citizens participated at a lower level, being mere consultants of the process, which would be the fourth rung of the ladder (Consultation).

This research has highlighted the importance of having a stable group of citizens throughout the course of the project. They not only were the ones in charge of designing and developing the services, but also helped spread the word of the project to the citizenship, which was key to ensure a better community engagement.

#### b) Interviews

To better understand both of the ongoing processes, interviews were conducted with the project coordinator of both of the above-mentioned projects and with the public participation official of the city council, as can be seen in Table 2.

# N°ObjectiveIntervieweeI1Understand how participation processes in the municipality have<br/>worked in the past and the internal organization for itPublic participation<br/>officialI2Understand a specific ongoing participation processProject coordinatorI3Understand a specific ongoing participation processProject coordinator

Table 2. Qualitative interviews

All three interviewees highlighted the importance of the first contact with the citizens. As interviewee 3 (I3) mentioned, *"The first call to the citizens is crucial for a good outcome"*. Likewise, since it is the first contact they have with the project, it is important to manage their expectations according to what can and cannot be done, as interviewee 1 (I1) pointed out, *"the most important part of the beginning of the project is not to generate false expectations to the citizens"*. It is important that citizens are aware of what this project can do for them and what not, otherwise it can generate confrontations and disagreements, as interviewee (I2) observed: *"When the door is opened to raise difficulties or proposals, without restrictions of any kind, it is like writing a letter to Santa"*.

A way to overcome this challenge and not generate false expectations, as the interviewees mention, was to define the scope of the project along with the citizens. Also, it was interesting to use this phase to define the action plan of the project with the citizens, so that they were aware of the projects' implications. As I2 commented "*if I had to go back in time now, knowing what I know, I would say that the diagnosis of the context and the action plan have to go together*".

Once the project was underway, the key was to have people that were willing to take part in the different activities and workshops. As I1 stated "The tricky thing is not to get people to come, but to make it attractive enough for them to want to come back". To overcome this challenge, the project team put together a stable group of citizens that were willing to participate more periodically. As I2 stressed, "What is most valuable about the whole project is the stable group. Without the group there is no project". She emphasized the importance of the stable group: "If there is not a stable group, the project would end up being a letter to Santa". In the same way, I3 underlined that the project was successful due to the communication between the group and the technical team: "The closeness that the technical team has with the Children's Council is, we believe, one of the keys to the success of the project".

All of the interviewees agreed that despite the nature of the project, if you involve citizens you have to make them see that their involvement produced results, regardless of whether they are feasible solutions or not. As I2 said, *"It is important to receive feedback on the actions that have been worked on in the sessions, whether positive or negative"*. I3 also stated that *"citizen participation has to be a cycle; it has to have a beginning and an end; a feedback"* in the same

way that children always receive feedback: "they will always have an answer from the mayor for the solutions they propose; for us this was the starting point of the project".

Lastly, as each of the analyzed projects belonged to a different department of the city council, they worked independently. However, both projects highlighted the value that these initiatives would have if working together. All the interviewees stressed the value of these projects from a transversal point of view, and the added value of working together with other stable groups, even if it is a at timelier manner. As I2 added, "We have to look for ways to work together with other projects that are ongoing. Why aren't there joint projects or two projects that can row together?".

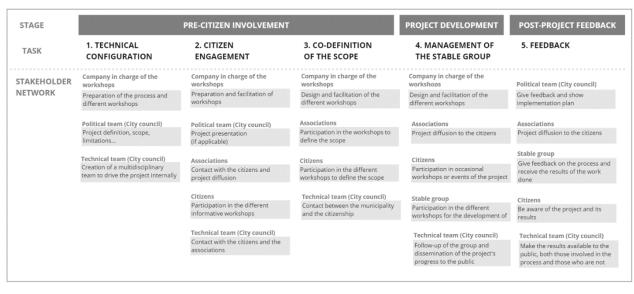
#### 4.3. A preliminary framework for a citizen-centered public participation

Through the research conducted, a preliminary framework is proposed that puts citizens at the center of the participation process (see Figure 2). This framework is constructed based on the three stages identified in the literature (the pre-citizen involvement stage, the project development stage and the post-project feedback stage). Likewise, each stage introduces a new sort of specific tasks and stakeholders that should be taken into account while conducting a citizen center participation process.

Regarding the pre-citizen involvement stage, there are three key tasks in order to encourage the involvement of the citizens in the process: (i) the technical configuration, (ii) the first citizen engagement and (ii) the co-definition of the scope. The initial stage of the project involves the technical configuration task which entails establishing the project framework and parameters. This includes defining the project goals and objectives, setting up a team, defining their roles and responsibilities, and establishing communication channels. The success of the project largely depends on a well-defined and organized approach. The subsequent stage is citizen engagement, which emphasizes the crucial role of the first interaction with citizens. A clear and appealing message is vital to ensure their participation. Finally, co-defining the scope of the participation process with citizens is essential to ensure mutual understanding and avoid any misunderstandings. This facilitates effective management of expectations and satisfactory outcomes for all stakeholders.

As for the project development stage, there is a task that was seen as crucial to ensure the involvement of citizens: the management of the stable group. If the project is going to be long term, it is advisable to establish a group that stays stable throughout the project. In this way, long term issues can be addressed and developed within the group and the project ensures its continuity. For an adequate management of this group, they should have direct contact with the technical team of the city council whereas the company in charge of the workshops should focus on the preparation and development of the different workshops.

Lastly, the post-project feedback stage has a key task that is lacking in most of the participation processes: the feedback. It is important to give back to the citizens after taking part in a participation process, so they feel listened to and see that their contributions have made a difference. In this case, it is recommendable to involve all the different actors that have taken part in the project, so everybody is aware of the results of the process. Even though the contact with the citizens is the technical team of the city council, for this specific task it is important to receive the information also from the political group. In this way, citizens feel listened to, as they are made aware of how the city council will implement or is implementing their contributions.



#### Figure 2. Preliminary framework for a citizen-centered public participation process

# 5. Conclusions

When it comes to public participation models analyzed in the literature, it was seen that regardless of the nomenclature and amount of the phases, all of them follow a similar structure. Nevertheless, most of these models start with the involvement of citizens, without referring to any previous phases, which can lead to mishaps in the process planning. In the same token, taking as a reference the aim or focus of these models, eight out of the twelve cases analyzed are process-oriented, whereas only four can be denominated actor-oriented. Being so, there is a clear need of changing the focus of the processes to be able to develop citizen-centered public participation processes.

Focusing on the processes analyzed in Ermua, it has been seen that the reception of public participation processes at the municipal level is good. Even so, we have seen the importance of having a stable group of people who participate in the different phases for the project for it to be satisfactory. This group was also crucial to disseminate the project to the rest of the citizens.

As was addressed beforehand, to ensure a successful citizen involvement is important to keep in mind all three stages of a participation process: the pre-citizen involvement stage, the project development stage and the post-project feedback stage. By the same token, adding the tasks mentioned for each of the stages will improve the experience of the citizens and, hence, their involvement with the process. This will lead to a citizen-centered process, namely a process that is designed with the needs and expectations of the citizens in mind with an increased trust, transparency and collaboration between citizens and public administrations.

Focusing on the tasks of the different stages, there is a clear need of a technical configuration of the project before engaging the citizens in order to set up the internal work team and define the roles of each of the contributors. A lack of an adequate configuration can end up in the struggle to ensure a good engagement from the citizens, which leads to not so successful processes. Likewise, it is important to clarify from the beginning the role that each of the stakeholders of the process will have as well as the interactions between them. It is not only vital to identify the stakeholders that will take part in the process, but also when and how they will participate to generate a tailor-made process for each of them and have better outcomes. As it has been mentioned beforehand, a key factor in the process is the initial contact with the citizens. For this, communication with citizens is paramount. It must be clear and concise avoiding any kind of confusion. It is important to send clear messages and to keep the rest of the citizens in the loop of the project to ensure that there is an engagement at municipality level.

Likewise, managing expectations is crucial in ensuring the success of a participation process. Communication is vital in setting realistic expectations and avoiding misunderstandings among stakeholders. Defining the scope of the project and involving all stakeholders in the process can help ensure that everyone has a clear understanding of what is expected of them and what they can expect in return. By involving stakeholders in the definition of this scope, potential misunderstandings can be identified early on and addressed before they become major issues. Ultimately, managing expectations through effective communication and citizen involvement can help increase the chances of a successful outcome for the participation process.

Similarly, in long term co-creation processes with citizens the importance of having some stability is highlighted, which can be accomplished by the creation of a group. This group can serve this purpose by providing citizens with a sense of belonging and dedication, thereby enhancing their participation experience and fostering their engagement. This factor assumes pivotal importance, primarily because in the absence of such stability, the project may not come to fruition or fall short over time.

Lastly, providing continuous feedback to participants is an essential aspect of any process, as it helps them understand how their contributions have impacted the outcome. It not only serves as a way to acknowledge their efforts but also provides valuable insights into how they can improve and grow in the future. When participants receive feedback that their efforts have served the purpose, they are more likely to feel motivated to continue their involvement in the process. It also helps to create a sense of ownership and accountability among participants, as they can see the direct impact of their contributions.

# 6. References

- Alonso, R.G., & Castro, S.L. (2016). Technology helps, people make: A smart city governance framework grounded in deliberative democracy. In J. Gil-Garcia (Ed.), Smarter as the New Urban Agenda (pp. 333-347).
- Arnstein, S. R. (2019). A Ladder of Citizen Participation. *Journal of the American Planning* Association, 85(1), 24-24–34.
- Berntzen, L., & Johannessen, M.R. (2016a). The role of citizen participation in municipal smart city projects: Lessons learned from Norway. In J. Gil-Garcia (Ed.), Smarter as the New Urban Agenda (pp. 299-314). Springer.
- Correia, D., Feio, J. E., Marques, J., & Teixeira, L. (2023). Participatory methodology guidelines to promote citizens participation in decision-making: Evidence based on a Portuguese case study. *Cities, 135*
- European Commission (2023). EU competitiveness beyond 2030: looking ahead at the occasion of the 30<sup>th</sup> anniversary of the Single Market.
- Fritz, L., & Binder, C. R. (2018). Participation as Relational Space: A Critical Approach to Analysing Participation in Sustainability Research. Sustainability 2018, Vol. 10, Page 2853, 10(8)

- Fung, A. (2006). Varieties of Participation in Complex Governance. *Public Administration Review*, *66*(s1), 66–75.
- Gascó, M. (2017). Living labs: Implementing open innovation in the public sector. *Government Information Quarterly*, 34(1), 90–98.
- Giffinger, R., Fertner, C., Kramar, H., Kalasek, R., Pichler-Milanovic, N., & Meijers, E. J. (2007). Smart cities. Ranking of European medium-sized cities. Final report.
- Goodchild, M. F. (2007). Citizens as sensors: The world of volunteered geography. *GeoJournal*, *69*(4), 211–221.
- Hofer, K., & Kaufmann, D. (2022). Actors, arenas and aims: A conceptual framework for public participation. *Planning Theory*, *0*(0), 14730952221139588.
- Kalandides, A. (2018). Citizen participation: towards a framework for policy assessment. *Journal of Place Management and Development*, *11*(2), 152–164.
- Kamalia A. Kamaruddin, & Nor L. Md Noor. (2017). Citizen-centric demand model for transformational government systems. *In Proceedings of the 21st PACIS, Langkawi*.
- Leminen, S. (2013). Coordination and Participation in Living Lab Networks. *Technology Innovation Management Review*, *3*(1).
- Lim, S., Malek, J. A., Hussain, M. Y., & Tahir, Z. (2018). Citizen participation in building citizen-centric smart cities. *Malaysian Journal of Society and Space*, *14*(4), 42–53.
- Luyet, V., Schlaepfer, R., Parlange, M. B., & Buttler, A. (2012). A framework to implement Stakeholder participation in environmental projects. *Journal of Environmental Management*, *111*, 213–219. https://doi.org/10.1016/J.JENVMAN.2012.06.026
- Mahajan, S., Hausladen, C. I., Argota Sánchez-Vaquerizo, J., Korecki, M., & Helbing, D. (2022). Participatory resilience: Surviving, recovering and improving together. Sustainable Cities and Society, 83.
- Manville, C., Cochrane, G., Cava, J., Millard, J., Pederson, J.K., Thaarup, R.K., Kotterink, B.(2014). Mapping smart cities in the EU.
- Massey, B., Verma, P., & Khadem, S. (2018). Citizen Engagement as a Business Model for Smart Energy Communities. 2018 5th International Symposium on Environment-Friendly Energies and Applications (EFEA), 1–6.
- Nguyen Long, L. A., Foster, M., & Arnold, G. (2019). The impact of stakeholder engagement on local policy decision making. *Policy Sciences*, *52*(4), 549–571. https://doi.org/10.1007/S11077-019-09357-Z/TABLES/3
- Preston, S., Mazhar, M. U., & Bull, R. (2020). Citizen Engagement for Co-Creating Low Carbon Smart Cities: Practical Lessons from Nottingham City Council in the UK. *Energies 2020, Vol. 13, Page 6615, 13*(24), 6615. https://doi.org/10.3390/EN13246615
- Reed, M. S. (2008). Stakeholder participation for environmental management: A literature review. *Biological Conservation*, 141(10), 2417–2431. https://doi.org/10.1016/J.BIOCON.2008.07.014
- Röder, S., & Tautges, W. (2004). Designing participatory processes. Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and

Lecture Notes in Bioinformatics), 3035, 249–256. https://doi.org/10.1007/978-3-540-24683-1\_25/COVER

- Stauffacher, M., Flüeler, T., Krütli, P., & Scholz, R. W. (2008). Analytic and Dynamic Approach to Collaboration: A Transdisciplinary Case Study on Sustainable Landscape Development in a Swiss Prealpine Region. Systemic Practice and Action Research, 21(6), 409–422. https://doi.org/10.1007/s11213-008-9107-7
- von Korff, Y., d'Aquino, P., Daniell, K. A., & Bijlsma, R. (2010). Designing Participation Processes for Water Management and Beyond. *Ecology and Society*, *15*(3). http://www.jstor.org/stable/26268180
- Wilker, J., Rusche, K., & Rymsa-Fitschen, C. (2016). Improving Participation in Green Infrastructure Planning. *Planning Practice & Research*, *31*(3), 229–249. https://doi.org/10.1080/02697459.2016.1158065

Comunicación alineada con los Objetivos de Desarrollo Sostenible

