

Defining the engagement life cycle in e-participation

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ABSTRACT

The role of citizens in policy making has changed with the increasing use of technologies, and has made citizen engagement a priority for governments. Motivated by this issue, we present a model to characterize the life cycle of citizen engagement in e-participation.

CCS CONCEPTS

• **Applied computing** → **Computing in government**; *E-government*;

KEYWORDS

citizen engagement, e-participation, e-government, gamification

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1 INTRODUCTION

In recent years, governments have pointed out the importance of involving citizens in policy making [1]. In this context, the use of technologies has aimed to facilitate and motivate citizens to participate in decision making processes [3], increasing government transparency and trust, and the number of participants in public debates. Studies such as [10] have shown that citizens perceive some advantages in digital participation tools, like saving time and having higher quality and transparency in the participation processes. They have also shown that people are more likely to use e-participation tools if they are satisfied with the tools design, which is in accordance with previous work in computer science domains, such as e-commerce [6]. It is in other areas, like psychology and marketing, where representing and inferring human personality and motivations have been extensively investigated, and where theories and models have been proposed to identify, describe and ultimately promote a subject's intents to perform certain tasks and follow particular behaviors. This has been often framed under the umbrella of the so-called *user engagement*. Most cited works in political sciences define engagement as a synonym for political participation and the act of involving the citizens in decision making [1, 9]. Psychology literature, on the other hand, understands the engagement as a permanent psychological state, and is conceived as a process by which the individual runs, across several stages and intensities [5, 7].

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Inspired by previous work in marketing and computer science, in this paper we propose a model of engagement for the e-participation domain. The model defines engagement as a cycle with various phases, where one can perform particular mechanisms to stimulate the citizens' participation at different levels. For each phase, we provide recommendations about aspects to consider when designing and implementing digital participation tools.

2 THE ENGAGEMENT LIFE CYCLE

Engagement can be understood as a persistent psychological state in time, with various stages [5, 7, 8]. In the context of policy making, when a citizen is engaged, she may feel distinct levels of energy and interest in participatory experiences that can vary over time. For this reason, we consider an **engagement life cycle** that contemplates the different phases of engagement an individual could experience (Figure 1). This model may facilitate the design of e-participation tools with functionalities aimed to stimulate the levels of engagement in each phase during a public participatory process.

Engagement is characterized by some attributes inherent to each phase. These attributes are a set of cognitive, affective and behavioral variables that explain the reaction of an individual to a situation or in the exercise of an activity. Various authors have identified **attributes intrinsic to the subject**, such as *affection, motivation, interest, vigor, focus on what is being done, dedication, efficiency and perception of time* [4, 8]. We believe that in e-participation, it is important to design digital tools that contemplate both the different phases of engagement and the inherent attributes of each phase. In particular, we also consider some of the **attributes intrinsic to the system** identified in [5], namely *aesthetic aspects* –elements related to the appearance of things, e.g. beauty–, *feedback* –response or reaction of the system communicated to the individual–, *novelty* –variety of unexpected contents and events that surprise the individual–, *challenge* and *control* –efforts invested in an experience, and the feelings developed about the experience. Finally, in addition to the above intrinsic attributes, the **subjects' extrinsic motivations** should also be taken into account. In this context, gamification has been envisioned as a promising approach to engage citizens in e-participation initiatives [9]. It is defined as the application of elements and mechanisms of game playing (e.g. point scoring, ranking, competition and collaboration) to non-game contexts, aiming to increase motivation and enjoyment. All these attributes and mechanisms are part of the life cycle of engagement, and should be addressed by e-participation tools. In the next subsections, we briefly describe the cycle, and give recommendations about how to consider the above elements.

2.1 Starting point of engagement

It is important to know how engagement experiences begin in a citizen participation context. There may be certain motivational factors intrinsic to a citizen. For example, she may be concerned with

a particular problem in the city, or may be interested in interacting with neighbours.

A citizen, however, could be provoked to participate by means of external stimuli. To draw attention to citizens, a participation initiative must be presented in an attractive way. Hence, the design of an e-participation tool should be oriented towards the care of aesthetic aspects [5]. In addition to the tool, publicity of the participation initiative and channels has to be properly conducted. Clear information provided by governments, together with a motivating discourse and political narrative, play a fundamental role. This means a political communication work by governments focused on promoting participation through the participatory tools and procedures. Governments have to make greater efforts to awaken the interest of the largest number of citizens as possible. For such purpose, the segmentation of the target public is convenient, since it allows identifying the types of individuals that can participate, and managing personalization and diversity according to e.g. cultural differences, values, behaviors and motivations [8].

2.2 Stage of engagement

A participatory process requires citizens to show high levels of attention and concentration [4]. In order to ensure that citizens collaborate and keep engaged, elements have to be introduced into the participation tool that stimulate novelty, and enable accessibility and usability [5]. To achieve the citizens' engagement maturity, the tools have to be designed with a number of functionalities aimed to reduce participation costs, guide citizens through the procedure, and offer contents in a personalized way [7]. Also, The possibility for citizens to contribute by proposing ideas or actions through an e-participation tool in an easy way would facilitate them to achieve a satisfactory engagement stage. Thus, functionalities in the tool should make citizens perceive feelings of challenge, control and feedback [2, 5]. Finally, the e-participation tools may contain functionalities that influence citizen behavior, e.g. through gamification mechanics. Positive reinforcements, rewards, social learning, and regulatory influence could also influence a citizen's willingness to participate in an initiative.

2.3 Expiration of engagement

During the participation process, citizens may experience a decline in their interest, and consequently a loss of engagement. Factors such as indifference, time constraints, and other costs may contribute to the citizens' lack of interest in public participation. Engagement will not be fostered if e-participation tools generate experiences that are not enjoyable or fun, and are useless systems with unattractive content and with excess of information. In order to avoid this, it is important to design e-participation tools with some elements that could revitalize the engagement status[7]. Thus, a new engagement cycle would be initiated, avoiding the crystallization of the participative process and citizens' indifference.

2.4 Point of reengagement

Engagement usually disappears when an activity finishes, but may return in a period of time [5]. A main objective in e-participation could be to *re-engage* citizens when new initiatives arise. The citizens' memory about a previous initiative and their experience with the e-participation tool are critical factors to (not) participate again.

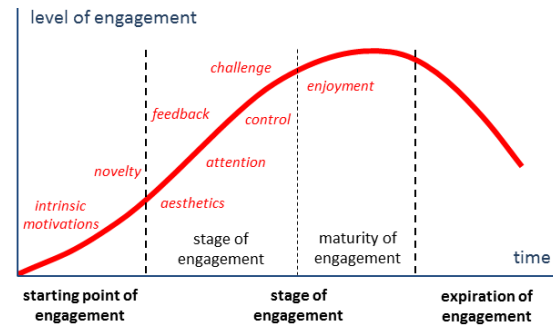


Figure 1: Engagement phases and attributes

Thus, e-participation tools should be designed to provide citizens with pleasant and satisfactory experiences. A tool may also keep citizens informed about the implementation and results of past proposals, showing them that their opinions and contributions really matter. This may help originating or increasing their interest about further participatory events.

3 FUTURE WORK

As future work, we plan to develop a framework in which all the attributes discussed in this paper –intrinsic to the subject and intrinsic to the system– will be formally defined. To validate the framework, we will propose a number of metrics that measure the degree of engagement that citizens have before, during and after an e-participatory initiative. We also aim to model different citizen profiles, based on individual personality traits and other characteristics. Such profiles could be useful in tools that contain elements such as gamification. Finally, we will consider and analyze distinct forms of engagement, aiming to incorporate the citizens' needs into the design of e-participation tools in a more personalized way. This would allow the tools to diligently attend the citizens' demands.

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