Chapter 4
How to Gamify E-Government Services?
A Taxonomy of Game Elements

Ruth S. Contreras-Espinosa
https://orcid.org/0000-0002-9699-9087
University of Vic-Central University of Catalonia, Spain

Jose Luis Eguia-Gomez
Polytechnic University of Catalonia, Spain

ABSTRACT

Although gamification has been applied to the e-government domain for the past 20 years, the literature shows that the field still lacks formal definitions to support the design of gamified strategies on these types of platforms and services, and that game element selection is often a subjective matter. This chapter provides a useful taxonomy of game elements to support the design of e-government initiatives, elaborated from the analysis of the literature on gamification frameworks and models applied to this domain. This work was additionally validated by gamification experts from public and private organizations during a series of workshops. A total of 30 commonly used game elements were selected, conceptualized, and classified into six dimensions. Gamification experts agreed that this work contributes to standardizing the game elements employed in e-government services, while the authors also believe this taxonomy can be a useful tool to analyze already existing frameworks.

INTRODUCTION

E-government represents a way of providing services to the citizens via online platforms, while the so-called e-participation facilitates the communication between citizens and the public administration. The latter is divided between political participation, where citizens engage in public affairs with the aim of influencing political outcomes (Brady, 1999), and civic participation, where citizens act for the public good (Thiel, 2017). In general, the success of these platforms is dependent on the goals and ob-

DOI: 10.4018/978-1-7998-9223-6.ch004

jectives of participation, and it is for this reason that gamification has been a useful strategy applied to e-government (Hollebeek, 2011). Moreover, gamification has been successfully used in other domains such as healthcare (Johnson et al., 2016), education (Nah et al., 2019), and transportation (Yen et al., 2019), among others, where game elements were integrated into platforms or services.

Gamification in the context of civic engagement is a possible means to positively influence active participation on online civic platforms (Coronado Escobar & Vasquez Urriago, 2014). On the other hand, according to Ryan et al. (2006), gamification is also useful as part of the motivational design and can influence the behavior of the users based on the incentives they receive. Thus, counting with information regarding motivators contributes to effective gamification design. Consequently, one of the main goals of gamification in e-government services is to increase user motivation and engage citizens as active players through measures that facilitate activities such as taking part in the public conversation, giving feedback to possible local government decisions, or actively meeting common objectives. However, gamification is still a relatively emergent area of scientific inquiry and there is still a lack of understanding of how such goals could be materialized (Hassan, 2016).

In their literature review, Contreras-Espinosa and Blanco (2021) revealed that the majority of works focused on the inclusion of gamification in e-government services does not follow any methodology in order to quantify the impact of the implementation of game elements and that the selection of these elements is rather a consequence of the expectations of the designer. For example, Bista et al. (2013) proposed the implementation of game elements over an online community for young people transiting from parental support towards economical emancipation in an e-government interaction and service called Next Step. This initiative from the Australian Department of Human Services enabled transactions between citizens and the management of the service itself. The designers and authors of this work included basic game elements such as points and rankings, but they did not conduct a previous analysis to select them, or any post-analysis to evaluate their impact. Thus, game elements were selected based on the preference and expectations of the designers, rather than according to the objectives of the implementation. In another example, Blazhko et al. (2017) addressed citizen stimulation to understand available open government data. This service provided the citizens with different types of information to teach them about a variety of concepts and indicators, such as pollution, death rates, etc. The main goal was to improve citizen information levels to encourage and facilitate informed decision-making during elections or other democratic processes like referendums. To motivate the users, the researchers gamified the service including elements such as points, rankings, and rules. However, this work was also characterized by a lack of formal criteria to determine which elements to implement, and which indicators could be useful to assess their performance. These examples highlight the present demand for a taxonomy or any other tools that can help designers select the most appropriate game elements for public services.

Public officers and servants are interested in using gamification in e-government services, but they do not count with the time or resources to understand the differences and similarities among game elements, which is a crucial step in order to decide which elements would be appropriate for each case (Al-Yafi & El-Masri, 2016). Furthermore, a clear definition of the individual game aspects and their differences is still missing (Thiel, 2017), while gamified e-participation tends to be misunderstood in practice, diminishing its potential (Hassan, 2016). With the aim to contribute to filling this gap, the authors present in this chapter the first approximation to a taxonomy of game elements appropriate for e-government services, elaborated with the collaboration of, and approved by, gamification experts from public and private organizations. The contributions of this chapter include: (1) a novel taxonomy, providing details on