

# Governmental Service Gamification: Central Principles

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## ABSTRACT

The introduction of gamification of governmental services is a topic of interest to policy makers and gamification researchers and practitioners alike. Nonetheless, governmental gamification still remains an understudied area, despite the practical governmental gamification initiatives already taking place, facing increased implementation risks from the lack of guiding implementation principles. Such risks and lack of unified guidelines for governmental gamification necessitates the examination of governmental gamification from the perspective of existing knowledge to synthesize key knowledge fathered on its implementation. This article examines existing research in order to provide guidelines for applying gamification in government services. By using a combination of research on gamification in civic engagement and the Gamified Service Framework of Klapztein and Cipolla, the article creates a basic roadmap for recognizing factors that need to be considered when applying gamification techniques and methods in government services and the public sector in general.

## KEYWORDS

Gamification, Government Services, Public Sector, Public Services, Theory Development

## INTRODUCTION

Gamification is a trend that can be roughly described as the addition of game elements to non-gaming contexts (Deterding et al., 2011). Despite some fluctuation in its popularity, it still appears to be a growing trend in business contexts (Warmelink et al., 2018), crowd mobilization (Morschheuser et al., 2017), and personal health management and education, amongst many other fields (Hamari, Koivisto, & Sarsa, 2014; Koivisto & Hamari, 2017). Nonetheless, the study of gamification in management and organization is still rare (Vesa et al., 2017; Vesa & Harviainen, in press). This is also true in the wider case of the study of play in organizations (Statler, Roos, & Victor, 2009; Statler, Heraclous, & Jacobs, 2011, Vesa, den Hond, & Harviainen, 2018). The studies that are done in these areas are sometimes furthermore still too fixed on looking at the wrong things, such as methods, or promotion, instead of certified results (Landers, in press). In this article, we provide insights for re-profiling the study of gamification in organizational contexts and especially governmental service contexts, an organizational context in heightened need for contextualized insight (Hassan, in press).

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Gamification relies on the playful nature of humans. As a species, we are inherently drawn to play, even as adult life may place a stigma upon it as “immature” behavior (Sutton-Smith, 1997). Not all play is fun (Stenros, 2015), nor is increased fun the central goal of all gamification (Landers et al., 2018). Gamification attempts to induce appropriate, enjoyable psychological experiences that the users would find engaging. (Huotari & Hamari 2017). These experiences are countless, often grouped under the umbrella goal experience of gamefulness. Some of these experiences, goal of gamification, are intuitively considered enjoyable and engaging, such as experiences of motivation, happiness or flow, while others are only considered enjoyable if appropriately experienced such as experiences of tension, challenge or fear. These experiences, overall, are thought to be the reason why games are enjoyable and engaging to large population segments (McGonigal, 2011). As gamification draws inspiration of game design (Deterding et al., 2011, Huotari & Hamari, 2017; Vesa et al., 2017), this enjoyability is one of the main targets of gamification design. Hence, for the sake of brevity, we refer in this article to “enjoyment” and closely related terms, in reference to the entire spectrum of emotional and cognitive possibilities of gamification.

People can often switch between their enjoyably playful and serious mind-states, even in conditions of work and other menial tasks (Apter, 2007). In gamification, the real-world environment and mundane tasks are combined with gameful and playful design, through a kind of make-believe (Deterding, 2016). This makes the mind-state switches between enjoyably playful and serious more likely to occur than they would otherwise without this stimulus. This mind-state switch is beneficial in many contexts, as it can make people aware of both the enjoyability and the potential, external benefits of the mundane activity with which they are engaged.

Gamification in the context of governance and governmental services has been of some popularity (Bista, Nepal, Paris, & Colineau, 2014; Opromolla et al., 2015; Thiel, 2016a). The context of gamification implementation and provision in the public sector is of interest to us here, in this article, as it has been suggested that civic engagement and governmental services can be improved by gamifying certain parts of them (Asquer, 2014; Deterding et al., 2011; Hassan, 2017; forthcoming). Civic engagement is often considered a mundane activity, with no direct or immediate return on the citizen engaged with it. It is additionally a serious activity with little enjoyability and hence it is very unlikely, as is often observed, that individuals would actively and voluntarily engage with it. If gamification can help switch individuals’ state of mind from perceiving civic engagement as a mundane activity to experiencing it playfully, then it is very likely that individuals would engage with it more often.

Such increased engagement with governmental services as is the goal of gamification is of high importance to most, if not all societies. The central reason is that since people often cannot be trusted to make the best decisions (or even to act in their best interest) if too many options are available, governments need to use various systems and methods to incentivize positive and prosocial behavior (Thaler & Sunstein, 2009). Several such techniques have been suggested before, including the application of psychology and behavioral economics through pre-selections, choice architecture and other forms of “nudging, the provision of additional information (e.g., health-related data) to citizens, and gamification (Lieberoth, Jensen, & Bredahl, 2018). Incentivizing “good” citizen behavior has been a significant focus of some of the research conducted on gamification in governance areas (e.g., Al-Yafi & El-Masri, 2016; Williamson, 2017).

Research, however, focused on the creation of “good” citizens often raises debates. While we can intuitively see environmental and financial benefits in governments, for example, incentivizing responsible behavior such as the use of sustainable transport, the ethicalness of such initiatives and their outcomes are debated (Mahnic, 2014). Such initiatives define “good” through a top-down approach that might not always agree with how citizens themselves would define “good”. In authoritarian regimes, that might lead to the implementation of governmental objectives that do not agree with societal objective through the soft, engaging force of gamification. Engagement with such gamification may hence not be fully voluntary, enjoyable, nor playful.

These aforementioned methods to optimize governance of society, and the behavior of its individual components, are not mutually exclusive. They can create synergies, but they can likewise work at cross-purposes. In the few comparative tests that have been implemented so far, gamification appears to produce better results than do the baseline, nudging, and information-provision versions of the same activity (Lieberoth et al., 2018). Such observations are in line with general, empirical gamification research that suggests that gamification works and is able to create positive effects and changes (Hamari et al, 2014; Koivisto & Hamari 2017). In a significant portion of that research, gamification is seen as a way to maximize performance and/or profit, and thus play is not considered there as an inherent part of human nature (Sørensen & Spoelstra, 2012). For governmental processes, something else is however needed. Hence, in this theory building article, we look at governmental gamification in an attempt to bridge the gap between existing design practices and expectation, and the specific context, which requires certain additional considerations.

## BACKGROUND

Governments exist, at the core, to provide order and services for their citizens. Some of them do it much better than others, but the core principle is the same. Here, we specifically focus on the service side of that function, as that is where gamification appears to manifest the most. Several definitions for gamification exist (e.g., Deterding et al., 2011; Huotari & Hamari, 2017). For the purposes of this article, however, we following Hassan's framing (2017), built upon that of Huotari and Hamari (2017), define it as "...the utilization of motivational affordances that create value-adding experience in the design of services..." By examining governmental gamification from a service perspective, we add to the knowledge of both service gamification and the gamification of government services.

Gamification is about nudging individuals towards desirable behavior (Rigby, 2014). Often, especially on the short run, behavioral shifts resultant from gamification towards desirable behavior could be attributed to novelty more than anything else (Bogost, 2015). When novelty wears off, the gamified elements actually make people less likely to continue using the service (Koivisto & Hamari, 2014). Gamification, however, can work differently, arguably with longer lasting behavioral affects, if it is designed to focus on the needs and preferences of its potential users as well as on its potential user context (Hassan, in press; Morchheuser et al., 2018). Such user and context centric gamification focus on at first creating enjoyable experiences for its users that make them want to engage more with the gamified tool and that increased engagement with the gamified tool is what is next channeled towards desired behavior (Hamari et al., 2014; 2018). This understanding of gamification has been extended to the gamification of governmental services (Hassan, 2017; in press) and empirical research focused on understanding users and contexts of governmental services has been observed to report positive and lasting effects from gamification implementations (e.g., Lindley & Coulton 2015; Mulyana, Hindersah, & Prihatmanto, 2015; Sandoval-Almazan & Valle-Cruz, 2017).

A central challenge in this topic is that gamification and governmental services are in many ways at odds. Public services should by default be available to everyone who needs them and has the right to access them (Harviainen, Ekström & Ojasalo, 2018). Games, in turn, are based on inefficiency. They are systems of rules, in which artificial limitations are created for the purposes of heightened challenge level and enjoyability (Suits, 1978). Therefore, turning an activity into a game makes it harder to access, which is of significant concern to introducing gamification to governmental services (Mahnic, 2014). Gamification, however, does not have to rely on turning something into a game, just on making it more game-like through additional elements. This is a practice with a long history, exemplified by e.g., "employee of the month" leaderboards (Vesa et al., 2017). It is necessary to ensure that in any attempt at governmental or citizen participation gamification, democratic principles are observed, followed and supported (Mayer, 2009; Hassan, 2017).

A second challenge is that gamification is imprecise. It is hence often placed in a category of its own with regards to the utilization of game-based approaches to governance (Oceja & Fernández,

2017) and is often misunderstood in practice by implementing policy makers and officials themselves (Ampatzidou et al., 2018). As noted by Callan, Bauer and Landers (2015), gamification can easily guide people to do the wrong things in their quests for points and other merits. Despite the problems, civic engagement has so far used tailored games for civic learning or increasing motivation (Thiel, 2015). It is, however, possible to narrow the task scope, so that more useful results can be gathered from the side of games proper, and then translated into probable gamified behaviors. At the end of that spectrum lies the fear of social credits systems like that of China (Botsman, 2017), in which big data is used to rate a person's social credit rating, a gamified rating that then affects their possibilities in life. It is therefore necessary to keep in mind that the core of efficient, instrumental play is in its voluntariness (Deterding, 2016), and to use that thought as the key of design. Not everyone likes to play, and those who do may still wish to limit it to just games, not their work-lives – or civic service use (Warmelink, 2014). And we do not yet know, whether gamification can actually motivate people who are not interested in the topic or the context to some extent already (Hamari, 2013).

## METHOD

This article utilized an explanation building literature review, through which, researchers study the key literature of a field towards the construction of a new theory (Paré, Trudel, Jaana, & Kitsiou, 2015). By using existing research, this article provides a deeper look at the processes and requirements of governmental gamification. This is a method known to bring forth new data and new propositions for further research (Galliers, 1992). The article answers the research question: Which factors should be taken into account, when gamifying governmental services?

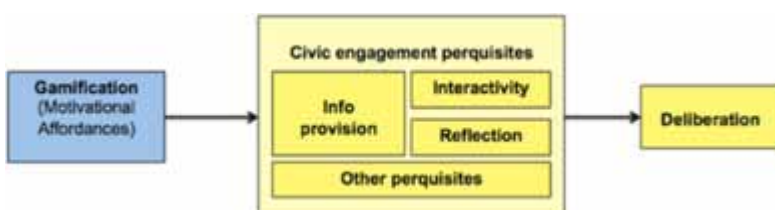
Due to the fact that very few articles on governmental gamification currently exist, we have here applied those existing sources in the context of other relevant gamification research, for the purpose of creating a testable synthesis. As Hassan (2017) has already reviewed existing literature on the topic of gamifying civic engagement, we here focus on creating a roadmap from that literature. For this purpose, we use the Gamified Service Framework (GSF) developed by Sol Klapztein and Carla Cipolla (2016), combined with Hassan's (2017) summary of deliberation modes (Figure 1), which are based on the idea that democratic processes are best fostered through societal discussions that create informed individuals.

We believe that such societal discussions also best impact the use of governmental and municipal public services.

## GAMIFIED SERVICES FOR GOVERNMENTS

The GSF framework is a simplified tool for applying gamification to services (Klapztein & Cipolla, 2016). It is based on the concepts and structure of Action Design Research (Sein et al., 2011). Drawing from the use of serious and simulation games, the framework introduces a simplified system for integrating gamification with service design and provision, yet with a goal of avoiding

Figure 1. Summary of deliberation modes in gamified civic engagement (Hassan, 2017)



the shallowness of what Landers (in press) defined as rhetorical gamification. Through a research process, Klapztein and Cipolla (2016) identify four central elements to the process: voluntariness, logic, actions, and reactions (Figure 2).

Voluntariness, as also noted by other researchers (e.g., Deterding, 2016) is a prerequisite without which a playful mindset cannot take place. It is possible to attend or play a game without being playful, and to be playful without being at play or playing a game (Stenros, 2015). Yet for meaningful engagement with a gamified activity to take place, voluntary participation with the right kind of mindset is necessary. Logic includes both the necessary technologies and materials, as well as rules for the organization of play or games. For gamification, rules organize the activity and guide it to the right directions. They may also focus task selection and task resolution, and thereby guide the process towards the desired objectives. Actions cover everything done during play and the game’s (or gamified system’s) responses to that, and Reactions is the physiological and psychological reactions of the participants. Finally, a social interaction component runs through the last two categories.

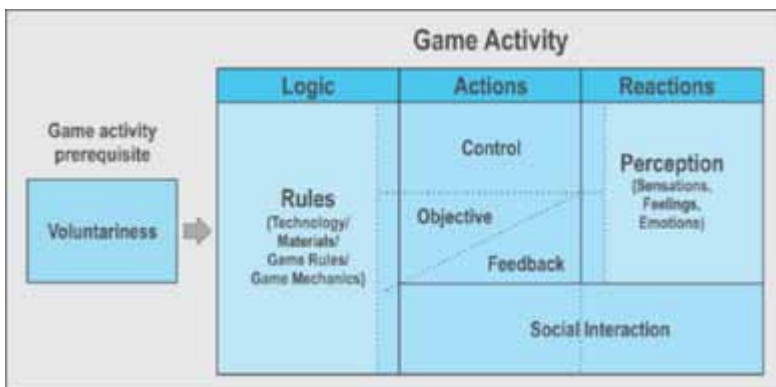
Several of these elements are directly relevant for cases of governmental gamification. For example, it has been documented that social influence (e.g., the number of friends using the service) has a direct influence on people’s interest in using a gamified system (Hamari & Koivisto, 2015). Social gamification appears to be similarly as effective in the realm of governmental services (Thiel, 2016b). A gamified government service needs to support social play, if it seeks to stay in use, and find new users.

Governments are also often forced by outsourcing and procurement regulations to select certain technologies, including information systems, over other more optimally suited ones. This means that the logic of some gamification applications may become distorted, or prevented, early on. Actions made possible by the Logic of the system will produce Reactions, and those need to be controlled if a positive response is desired. This is in line with the ideals of what Thaler and Sunstein (2009) call “libertarian paternalism”, the guidance of people towards choices that are beneficial to them without resorting to any kinds of coercion.

## AN OUTLINE FOR THE GOVERNMENTAL GAMIFICATION PROCESS

In their case example, Klapztein and Cipolla (2016) outline a process for the use of gamified services in a context we believe to be applicable also to government services. Its stages are Engagement, Entry, Immersion, Exit, and Extension. Each of these steps is necessary in the context of gamified governmental service, for a variety of reasons. We therefore see it of increased value to governmental

Figure 2. GSF framework structure (Klapztein & Cipolla, 2016)



gamification to extend the Klapztein and Cipolla (2016) gamification process to the context of gamified governmental services.

*Engagement* requires that the designers understand both marketing and human-centered design. Gamification design, in general, is often a multidisciplinary process (Morchheuser et al., 2018). Without sufficient and sufficiently well-done marketing, people will not find the gamified service in the first place, or may not consider it worth trying and testing, even if they do find it. This is already a design stage that requires an understanding of humanistic gamification (Deterding, in press), instead of just rhetorical design processes. Engagement is a tricky subject, often equated with immersion, but when analyzed on its own, engagement shows special requirements. In some cases, just framing an activity as a game is sufficient for it to be considered engaging (Lieberoth, 2015). In other cases, framing the gamified activity as e.g., “this thing we do” (i.e., as a not-game) may be more efficient (Harviainen & Savonsaari, 2013). Engagement is increasingly achieved through not any overt marketing campaigns, but rather through virally spreading reports on both the enjoyability of the activity and on a sense of individuals being able to make a difference by using it. Social influence nowadays crucially affects the selection of any hedonic information systems (Venkatesh & Davis, 2000). This social marketing effect extends to gamified versions of otherwise non-hedonic systems (Koivisto, 2018). It is therefore important to create curiosity in the potential users of the gamified system, so that they want to explore and play with it.

Entry is the point at which curiosity turns into actual usage of a system. As many potential users are lost at the early stages of their trying the system out, central elements to ensure their usage of the system include both perceived ease of use, as well as perceived usefulness of the system in question (as per Davis, 1989). Nonetheless, in cases of hedonic systems, people have a tendency to choose the enjoyable over the most useful option, if the two are not the same (Van der Heijden, 2004). As people are expected to choose the gamified version of a service over a non-gamified one in order to avoid e.g., the boredom associated with dealing with bureaucracy, they should not be turned away by things such as difficult interfaces or annoying user experiences. Gamification is often unsuccessful in the long run because of this possible lack of attention to its usability and ease of use.

Immersion, in the Klapztein and Cipolla (2016) context, refers to the system usage stage at which people start getting benefits from the system. In the case of a gamified system, it can also mean immersion in the gaming sense, i.e., that the user’s primary perception focuses on the activity itself, not the perceived benefits that can be gained by using it (as per e.g., Ermi & Mäyrä, 2005; Turner, 2016; see also Hamari et al., 2016). Nevertheless, the instrumental benefits of using the system must be aligned with the play at this point. If this is not done, players will quickly feel a sense of dissonance between the gamified system and the goals, and they may become more likely to stop playing (Schrier, 2016).

*Exit* is not just the point of leaving the system or pausing during its use, but also the ways in which instrumental benefits are gained or taken out of the system. It is not sufficient that the gamified activity be entertaining and enjoyable. If it is only that, it remains at the level of marketing hype, and becomes a game on its own, instead of a gamified service. After all, the main aim of gamification is dual: enjoyment as well as usefulness, the lack of one is threatening to a system or a service being considered gamified. Furthermore, the service that is being provided needs to be at the most visible part at the stage of exit, or people will never enter the stage of extension.

*Extension* includes users’ continued interest in the system, either for its enjoyable play, its benefits, or (hopefully) both. If this takes place, the system can be considered a design and an implementation success. Extension also features the opportunities for feedback and further interaction with the service providers. When the stage works, current or former users will function as agents who further other people’s likelihood of entering the Engagement stage with the gamified service.

In information systems terms, the gamified system has to excel at the *cognitive, economical* and *managerial* systems aspects (as per Buckland, 1991): it has to lead to actual, beneficial changes in its users’ state, situation or knowledge; it has to be perceived as being able to efficiently do so; and its

use must be perceived as beneficial, enjoyable, worthwhile, and easy. It does not have to be the most cost-effective option available, per se, if people think that the fun gained through play mitigates extra costs in e.g., time or effort required to accomplish a mundane task (as per Van Der Heijden, 2004). All of this requires a dive into concepts of human-centered design, through which these factors can be if not ascertained beforehand, at least made more likely. Klapztein and Cipolla (2016) provide one process model for this purpose (Figure 3).

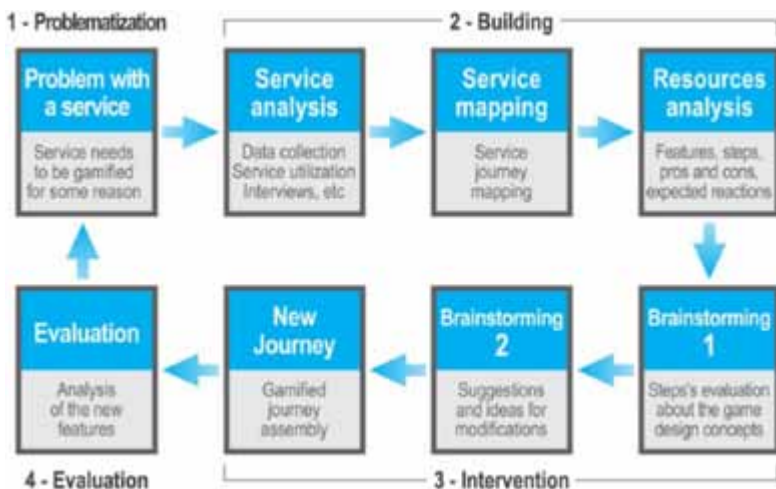
This discussed gamification design process can be combined with existing methods from service design (see e.g., Stickdorn et al., 2018). It is important, however, to note that concepts which work in games do not necessarily function as well for gamification (Landers, 2014). A different approach, one that combines design knowledge of individual game elements, their potential effects, and the subject matter, is required. This is why successful governmental gamification should be done in large enough teams, encompassing the various, necessary types of expertise.

## DISCUSSION

Landers (in press) separates two versions of gamification: the media/sales hype of *rhetorical* gamification, and gamification proper. The first of these is about the shallow introduction of some game-like elements (e.g., points, badges, leaderboards) to a non-gaming activity, with massive promises of increased interest and profit, often criticized by gamification scholars (Bogost, 2015; Landers, in press; Nicholson, 2012; 2015). The second one is a careful, content and process tailored introduction of elements, done using a humanistic approach and tested for impact (see e.g., Hamari, Hassan & Dias, 2018; Morschheuser et al., 2018). Under most circumstances, the second gamification option is far superior, while the first one quickly burns out user interest in the gamified service, even as that too may provide some positive results in the short term (Rigby, 2015).

We, however, believe that some governmental services may prove to be a key exception to this formula. Due to the ways in which they have to be accessible and easy to use for the citizens, they often do not benefit from game-like hindrances. Engagement in the governmental context is also sometimes intended to last for a short period of time and for specific purposes such as voter engagement during elections (e.g., Foxman & Forelle, 2014). Hence, complex gamification designs that arguably lead to longer lasting engagement may not be needed. The main way to handle the levels of complexity introduced by holistic gamification appears to be constant tracking (Hamari et al., 2018)

Figure 3. Gamification service framework application model (Klapztein & Cipolla, 2016)



combined with adjustments in the design process (Morschheuser et al., 2017) to accommodate the needed design complexity to arrive at user and context appropriate, complex gamification. At the same time, options for comparison, self-tracking and convenient achievements may increase some users' interest in contributing to the system and in improving it, while being ineffective in inducing similar engagement with others (Hamari et al., 2018). The question therefore is how to optimize the gamification so that it does not become too complex or too shallow?

We recommend the gamification of just partial tasks, rather than holistic processes, with no other parallel un-gamified process for if gamification fails to attain the desirable behavioral outcomes it is intended to attain. As noted by Hassan (2017), rooted in the self-determination theory (e.g., Ryan & Deci, 2000), the engagement and behavioral effects of gamification that is based on rewards persists as long as the rewards are perceived as valuable. Elements such as leaderboards, self-tracking and social comparisons may prove fruitful results but not continuously. At the same time, however, it is important to realize that unlike organizational play (e.g., Statler et al., 2009), gamification does not function well for interventions. Rather, it builds on systematic processes of rules, guidelines and pleasurable achievements. It needs enough duration in order to work its magic, and to get people to enjoy everything from the Engagement to the Extension, as well as to find all of the interaction useful and beneficial also in the long run.

## **CONCLUSION**

In this article, we have presented a structure for applying gamification in governmental service contexts, as well as key special elements necessary to consider and take into account while doing so. By examining a selected set of works on gamification, governmental civic engagement tools, and information systems aspects in the context of the Gamified Service Framework, we have brought forth new knowledge on the process of gamification in public services. Designers need to consider Engagement, Entry, Immersion, Exit and Extension, as well as do so together with stakeholders who thoroughly understand the government service processes that are to be gamified. This requires deeper engagement than has so far been applied in the examples provided in the examined literature. The study has also revealed that due to the peculiarities of governmental services, as opposed to e.g., services on the free market, some methods of gamification typically considered to be of lesser value may in fact turn out to be useful, especially if extended over time.

Designing governmental gamification with these principles in mind, and based on some of the design knowledge already gathered in the gamification field, will increase the likelihood that the implemented governmental gamification is successful. It will be better able to engage users and provide them with enjoyability from interaction with mundane governmental services, as well as connect them more efficiently to the natural benefits they want from the use of the service in question. This has the potential to improve perceptions of governments, and will provide a positive impact on some citizens' quality of living.

The central limitation of this work is that it does not engage with any gamification experiments of its own, and builds upon existing theory and research. This is necessary for theory development, but may also cause gaps in the recommendations. Further field tests of the framework provided here are therefore required, as is a deeper connection to existing research through such good, deep experiments.



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