# Chapter 8
# Not Just Videogames:
## Gamification and its Potential Application to Public Services

**Alberto Asquer**
*University of London, UK*

## ABSTRACT

*The aim of this chapter is to discuss how the emerging process of gamification can impact the production of public services. Gamification is a relatively recent phenomenon that relates, in broad terms, to the introduction to game elements in non-game contexts. After reviewing the concept, design principles and techniques, and effects of gamification, the chapter discusses the extent to which gamification may affect the production and delivery of public services. The conclusions discuss the possible role of gamification in reshaping the identity and role of citizens and their relationship with public authorities.*

## 1. INTRODUCTION

The aim of this chapter is to discuss how the emerging process of gamification can impact on the production of public services. Gamification is a relatively recent phenomenon that relates, in broad terms, to the introduction of game elements in non-game contexts. Examples of gamification include Nike+, a social running game-like service that is intended to encourage runners to compete and to provide them motivation to attain fitness goals, and Fold.it, a collaborative game-like online program for discovering how proteins fold. At first sight, gamification may seem confined to small niches of web-based applications that mostly ap-

peal to computer geeks or video-gamers. There are, however, some indications that gamification may extend to various aspects of everyday's life, including business services, education, and health.

As a social phenomenon, gamification has been little researched so far. Some works have been done on the very description and definition of what gamification is (Deterding et al., 2012; Hamari, 2013; Huotari and Hamari, 2012; Xu, 2011). Other studies highlighted the features of effective design and implementation of gamification mechanisms (Donovan, 2012; Easley et al., 2013; Groh, 2012; Hamari and Eranti, 2011; Nicholson, 2012; Paharia, 2012; Wang and Sun, 2011; Werbach and Hunter, 2012). Other research, finally, has been

done on the motivational and behavioral effects of gamification (Groh, 2012; Hamari et al., 2014; Oprescu et al., 2014). Yet, most of the scholarly literature primarily focused on gamification in the business sector, and its possible applications in the public one have been relatively ignored so far. Gamification may have relevant implications on the conduct of public administration and in e-government policies, however. As a system designed to affect human motivation and behavior, gamification may be relevant in the repertoire of the tools of government (Hood, 1983), i.e., of the devices and mechanisms that are installed and exploited with the aim of orienting the conduct of individuals and private sector organizations. As such, gamification poses interesting issues about whether it can help guiding the behavior of citizens towards socially desirable aims (e.g., greater care for health, for education, and for the environment). In addition, it also poses concerns about the extent to which public authorities may increase their capacity to influence citizens' psychology and behavior in a manipulative way. If gamification will ever become a component part of public authorities' instruments to affect individuals, then research should start paying attention to how gamification of the public sector can work and to what effects.

This chapter will review, first, works that have been done on what gamification is. Third section will provide an account of the principles for the design of gamification, of the core elements of gamification, and of the mechanisms of effective gamified systems. Fourth section will discuss the motivational and behavioral effects of gamification. Section five will tackle the issue of how gamification could affect the production and delivery of public services. Finally, section six will draw the conclusions, including critically assessing the implications of turning citizens to 'gamers' of re-designed public services and public policy processes.

## 2. WHAT IS GAMIFICATION?

The term "gamification" was rarely used until 2010, when it gained attention as a way to generally address the growing relevance of game-like components in various kinds of human and computer-human interactions. By that time, a growing number of individuals in the world had come to experience digital technologies (or Information and Communication Technologies, ICT) as a common aspect of their daily life. A large part of them, moreover, had come to consider digital entertainment - especially video-games - as a familiar way to amuse themselves. The social trend was described as a "ludification of culture" (Raessens, 2006), that related to the increased relevance of video-games as cultural medium along other traditional forms such as literature, movies, and television. In relation to this, a growing number of individuals started to take the presence of games or game-like experiences as an ordinary feature of their experiences, especially when dealing with the Internet.

In essence, gamification refers to the intended addition of a game layer to an existing activity with the aim of inducing desired motivational and possibly behavioral effects. Gamification may take place in various means, but they all generally consist of introducing some game design, element, and mechanism principles so that the individual experiences the activity as having game-like features. For example, the individual may be required to do something at a particular time or place; or they may enjoy the possibility to affect the actions of other individuals; or they may be required to attain a sequence of goals, that are typically ordered at higher levels of complexity and difficulty; or they may be expected to coordinate with other individuals in order to solve a challenge; or they may experience a combination of these (and possibly other) features (Xu, 2011). Gamification takes place when the individuals

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