

Effect of Demographics on Use Intention of Gamified Systems

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ABSTRACT

Gamification has become an influential term in diverse fields ranging from education to systems development and marketing. The recent intensifying emphasis is attributable to enabling technologies and successful practical applications used for changing attitudes and increasing engagement. However, relevant academic studies are not wide-spread and this study aims to address this vital research gap. This study is structured to understand the factors affecting intention to use gamified systems and test whether they are affected by gender or age. An online survey study was conducted on a web-based gamified system (EmpireAvenue.com) and following a detailed screening process, a total of 168 fully complete questionnaires were attained. The theoretical model employed was developed upon technology acceptance model (TAM) and modified to incorporate an intrinsic motivation element, namely the “perceived enjoyment” construct. According to the findings, age and gender moderate the relationships between usefulness, ease of use, perceived enjoyment and intention to use the gamified system.

KEYWORDS

Game Elements, Gamification, Gamified Services, PLS-SEM, TAM, Technology Acceptance, Technology Adoption

INTRODUCTION

Enabling ICT technologies, spreading availability of cheap mobile devices and the booming gaming industry all led to an increasing interest in “gamification”. Gamification, inspired by games and game mechanics is a term first used by Terrill (2008) as: “...taking game mechanics and applying them to other (web) properties to increase engagement...” Another definition of this term by Deterding et.al. (2011) through an extensive review is “...the use of game design elements in non-game contexts...” From a business perspective, gamification can also be briefly defined as “game thinking in practice”. This approach adopted by Werbach and Hunter (2012) defines gamification as a “...process of designing services/systems in non-game contexts as a game with the use of game elements and game-design techniques...” According to these definitions, gamification incorporates game elements into various applications to influence user attitudes and behavior. Numerous things can be considered game-elements furthermore gamification does not require all game elements to be present. Consequently, gamification does not equal to a full-game and a wide range of applications can be defined as gamification such as loyalty programs that reward and encourage loyalty through points. In typical gamified systems, points, badges, leader-boards, rewards and advancement systems are used to motivate the participants. In human-computer interaction, the use of game elements has

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also become a popular practice as an increasing number of tools incorporate them to motivate and engage their users (Rapp, 2015).

The gamification term became a hot topic in 2010 and has been promoted as a state-of-the-art tool for marketing practitioners in the last few years (Zichermann & Cunningham, 2011). However, there is a lack of extensive motivational and behavioral research on gamification. Most of the relevant studies on gamification are conference papers and focus mainly on use of gamification in educational settings (Seaborn & Fels, 2014). This creates a research gap that should be addressed by further studies. On the other hand, a considerable number of companies from a variety of industries use gamification applications in their daily operations by incorporating badges, leader-boards, point systems, achievement systems. These elements are much easier to implement and demand fewer resources in digital settings. Gamified systems are used for increasing engagement and participation among consumers (Bourque, 2014), employees (Werbach & Hunter, 2012 pp. 17-20), or community members (Cetin, 2013), acquiring new customers (Zichermann, 2013) and educating current customers (Bray, 2014).

Another factor fueling the demand is users' positive dispositions towards gaming elements. Games and game elements are considered more enjoyable and preferable whereas most non-game activities are regarded as dull activities. Making dull activities more enjoyable and fun presents opportunities to companies in increasing user engagement and participation (Sarangi & Shah, 2015). This phenomenon is valid for adults in addition to the younger population as nearly two thirds of adults in the U.S. agree that making everyday activities more game-like would make them more rewarding and fun (JWT Intelligence, 2011).

Parallel to the popularity of gamification, the global market for gamification is expected to grow from 1.65 billion USD in 2015 to 11.10 billion USD by 2020. This corresponds to a cumulative annual growth rate exceeding 46% (MarketsandMarkets, 2016).

Taking into account the growing interest in gamification, the factors affecting consumer intentions to use gamified systems and the importance of each factor should be determined. Relevant studies on gamification can provide insight into the consumer intentions and behavior in this context that will benefit marketing practitioners, system designers and academicians. Unfortunately, gamification related consumer behavior studies have received little attention from academia so far. The present study aims to fill this research gap in the existing literature by addressing the motivational elements affecting continued use intention of gamified services. Moreover, the differences among genders and younger and older users detected in various new technology applications may be present in gamified settings as well. In this context, the following research questions are aimed to be answered:

- How basic extrinsic and intrinsic motivational factors affect use intention of a gamified system?
- Are the relationships between motivational factors and use intentions affected significantly by demographic factors (age and gender)?
- Does intention to use gamified systems differ among gender and age groups?

These questions are aimed to be addressed through a multi group analysis of data through a model developed on relevant technology adoption and consumer behavior theories.

THEORETICAL BACKGROUND

Gamification Studies

The number of academicians working on gamification began to grow after 2010 with the growing worldwide popularity of this concept. Among the existing literature most of the studies are focused on educational applications and learning (i.e. Domínguez et al., 2013; Erenli, 2013; Schoech, Boyas, Black, & Elias-Lambert, 2013; Simões, Redondo, & Vilas, 2013). Other application areas have yet

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