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Playing seriously – How gamification and social cues influence bank customers to use gamified e-business applications

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A B S T R A C T

The development of business applications with game features has given rise to a new trend called gamification and challenged e-banking to introduce new game elements, such as mechanics and social cues, to its traditional applications. Yet, there has been a lack of empirical evidence regarding the intention to use, these type of applications and their possible impacts on business. Here, we explore the role of gamification, socialness, and other four well-known variables (ease-of-use, usefulness, enjoyment, and intention to use) in a gamified business application and corresponding business. We proposed and evaluated a model based on the Technology Acceptance Model to better analyze and understand the adoption of gamified business applications. To test this model, we developed a study using a sample of 183 bank customers, and we found that gamification significantly improved the customer's sense of social interaction, which, in turn, strongly influenced the customer's intention to use the applications. We argue that this intention to use could provide a strong benefit to the business, in term of increased customer engagement. This paper presents a new conceptual model to predict behavioral intention in regards to gamification in e-banking, illustrating seven variables that affect the adoption of e-banking by bank customers. Our findings contribute overall to a better understanding of gamification in e-banking (with the extension of Technology Acceptance Model theories, and the new variable gamification), providing important practical implications for software development and marketing practices.

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1. Introduction

The development of online games and social software, when applied to e-business, has created a new trend, one that appeals to user experience and creates active participation through gamification. Gamification is a US$100 million market that should grow to US$2.8 billion by 2016 (M2 Research, 2011). The term "gamification" is recent and defines the role of game design elements in non-game contexts (Deterding, Dixon, Khaled, & Nacke, 2011). Adopting gamification can be a marketing and business strategy used to increase customer engagement and loyalty, as seen in its rapid spread in fields such as business software development (Dubois & Tamburrelli, 2013).

E-banking provides a good model for examining the potential influence of gamification, because while e-banking has become one of the main banking channels for product and service distribution (Amato-McCoy, 2005), since 2009, e-banking usage has experienced a minor increase or even stabilized. American e-banking customers represent 61% of bank usage in 2010, but this percentage has not grown since 2013 (Pew Research Center, 2014). Despite the growth in services and products made available in e-banking, there are still elements that have a negative influence on customers' loyalty, particularly at the social level (culture, tradition and teaching), economic (information, profitability, and security) and personal (ease-of-use, learning, pleasure, and usefulness) (Yang, Cheng, & Luo, 2009). Given this, e-banking provides us with an opportunity to examine whether or not the addition of gamification to e-banking applications can lead to greater customer usage and involvement. Because online games have high social acceptance, are comfortable to use, easy to play, financially profitable, transmit sensations of pleasure, and induce behaviors and attitudes that contribute to users' high loyalty (Yoon, 2009), they provide a good model on which to develop e-banking that meets less resistance

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from the consumer. In general, games have a very low cultural resistance, and a high level of customer acceptance (Smith, 2007).

Key features that engage users of games are social influences and 'game flow experience' (Hsu & Lu, 2004). The importance of social context, and the games' elements or characteristics, have been explained with reference to existing literature about social influence in social psychology, and current experience in flow theory (Alenezi, Karim, & Veloo, 2010). Online businesses are trying to capitalize on current understandings of the game-user behavior by creating a social presence through the adoption of social cues technologies. Software development that generates social presence in e-business applications aims to provide an understanding of how the adoption of different social features can affect online sales. Such features also help to assess the current deployment of diverse social presence enhancing technologies among customers/clients, in order to reveal opportunities for other e-commerce business and to speculate about future developments in this area. Therefore, it is important to study the influence of the social features (socialness perception) that can be applied to e-banking so as to enhance the perception of online social presence for customers (through, for example, upload images, avatars, online product review, recommendation agents, instant help-avatar, social networks, blogs to share investment strategies, and other user-customization features). Research on the current adoption of such social cues and gamification features by online bank customers is very important, so that we can examine more specifically how e-banking with games and social cue features might affect the adoption of e-banking by customers.

Game design elements and social cues, if applied to e-business software, may provide several advantages. First, because games have rewarded mechanisms, such rewards may motivate customers to more frequently use the website and possibly increase their financial activity (e.g. inquire financial information and perform more transactions). Second, games may improve the customers' experience, learning process and enjoyment, facilitating the adoption of electronic channels. From a business perspective, gamification and socialness may also be applied as input to provide economic savings to the business by reducing the face-to-face relationship (while still maintaining a sense of social connection for the customer) and sustaining the development of electronic transactions that are directly performed by the customers.

Therefore, analyzing the use of gamified business applications in order to understand the influence of gamification and socialness perceptions is important to e-commerce/e-business success (Wakefield, Wakefield, Baker, & Wang, 2011). Current studies on the characteristics of games, and their influence on customers' behavior, are still insufficient (King, Delfabbro, & Griffiths, 2010). As well, the literature on online consumers' behavior is often very disconnected. It includes studies about the intention to use online systems; however, the intention to buy online, and the continuity behavior, has not yet been adequately studied (Chan, Cheung, Kwong, Limayem, & Zhu, 2003). Social factors may predict the use of gamification (Hamari, Koivisto, & Pakkanen, 2014; Hamari, Koivisto, & Sarsa, 2014), and some empirical research largely supports the popular view that gamification induces positive effects, but many caveats still exist (Hamari, 2013).

The introduction of game mechanisms in business is the art and science of enriching the customer interactions, while still developing games that serve business purposes (Zichermann & Cunningham, 2011). In this sense, companies have to learn how to introduce game mechanisms in their business software to provide a fun, rewarding, and enjoyable experience for their customers. However, the design of social gaming does not begin when the game starts; rather, it requires constant monitoring of customers' feedback, and business metrics. Almost 80% of applications fail the business objectives, mainly due to poor design (Gartner, 2012). In the application development context, the design is the process of creating rules and contents, through game mechanics, to allow gameplay (Hamari & Lehdonvirta, 2010). In this way, the design is critical to success in e-commerce/e-business, because the characteristics of gamification play a significant role in customer behavior. Thus, more studies are required in order to make incremental improvements in gamification applications for business, ones that add new features and gameplay mechanics (Hamari & Lehdonvirta, 2010) to ensure both customer engagement and the success of the business objectives. The game features and socialness cues in business software have grown so much that researchers of games and web designers have begun to study and monitor the evolution of gamification (Juul, 2011).

We already know that business software, gamified with social cues, can influence a customer's intention to use serious applications, but no research has yet studied the impact of both gamification and social cues on bank customers. The commercial success of online gaming and computer applications, and their influence on the behaviors of users in terms of confidence, enjoyment, ease-of-use and loyalty (Wu & Liu, 2007), demonstrate that the development of business applications with games features may positively influence customers to increase their use of e-banking, resulting in a higher degree of customer loyalty to the bank. This study, therefore explores the perceptions and attitudes of bank customers who used a real business application, 'Futebank,' which employed both gamification (with game design, points, rankings, and rewards), and social cues (language, voice, interactivity, and avatars). Because this application offers customers an innovative and new social experience due to its integration of games and social features, it may facilitate customers to buy more financial products online and may influence customers' intentions to increase their usage of e-banking, which, in turn, will positively have an impact on the bank business.

2. Main objective

In recent years, the technical evolution in software development, and the increasing number of internet customers, has led to the growth of e-banking (Eriksson, Kerem, & Nilsson, 2008). E-banking changed the traditional way of doing business, externalizing several services, and leading customers to perform their own banking activities (Eriksson et al., 2008; Nasir, 2013). In this sense, and thinking on the attractiveness of the services offered, some corporations developed or changed their business computer applications to include features appreciated by customers of online games (Sayar & Wolfe, 2007). Until now, there is no indication that the acceptance of business applications can be directly influenced by software with social cues, and game mechanics (Deterding et al., 2011; Gee, 2008; Wakefield et al., 2011), but we can see a correlation between these factors. Understanding the factors that affect customers' intentions to use e-banking is very significant to professionals who plan to promote new forms of banking in the current competitive market, especially those aiming for e-business growth (Nasri, 2011). The objective of this work is to identify the main factors that influence bank customers' use of e-banking applications, particularly ones developed with online games and social features.

We therefore analyzed the impact of gamified business applications on the users/customers of an electronic bank in Portugal. First, we will discuss the relevant literature of technology acceptance models. Subsequently, we will propose and explore our conceptual model, which includes seven variables (gamification,