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Review

Why do people play games? A meta-analysis

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ABSTRACT

During the last decade games have arguably become the largest form of leisure information systems (IS). However, today games are also increasingly being employed for a variety of instrumental purposes. Although games have garnered a substantial amount of research attention during the last decade, research literature is scattered and there is still a lack of a clear and reliable understanding of why games are being used, and how they are placed in the established utilitarian-hedonic continuum of information systems. To address this gap, we conducted a meta-analysis of the quantitative body of literature that has examined the reasons for using games (48 studies). Additionally, we compared the findings across games that are intended for either leisure or instrumental use. Even though games are generally regarded as a pinnacle form of hedonically-oriented ISs, our results show that enjoyment and usefulness are equally important determinants for using them (though their definitive role varies between game types). Therefore, it can be posited that games are multi-purpose ISs which nevertheless rely on hedonic factors, even in the pursuit of instrumental outcomes. The present study contributes to and advances our theoretical and empirical understanding of multi-purpose ISs and the ways in which they are used.

Contents

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1. Introduction

During the last decade games have become an established vein of entertainment, consumer culture, and essentially a common part of people's daily lives (Mäyrä, Karvinen, & Ermi, 2016; Yi, 2004). In the United States alone, 59% of the population plays computer games while revenues of the computer games industry exceed US $15 billion (ESA, 2014). However, in addition to the increased penetration of games, the ways in which people play and employ games have also become more varied. The long-tail is getting longer: there are more different kinds of games available for a multitude of different platforms that cater for differing gaming needs (Hamari & Tuunanen, 2014; Kallio, Mäyrä, & Kaipainen, 2011; Yee, 2006a; Yee, 2006b), for widening audiences (Greenberg, Sherry, Lachlan, Lucas, & Holmstrom, 2010; Griffiths, Davies, & Chappell, 2003; Griffiths, Davies, & Chappell, 2004; Hartmann, Jung, & Vorderer, 2012; Ijsselsteijn, Nap, de Kort, & Poels, 2007; Jansz, Avis, & Vosmeer, 2010; Koivisto & Hamari 2014; Mäntymäki & Riemer 2014; Mäntymäki & Salo 2015; Mäntymäki & Salo 2015; Mäyrä et al., 2014; Williams, Yee, & Caplan, 2008; Williams, Consalvo, Caplan, & Yee, 2009; Zhou, Jin, Vogel, Fang, & Chen, 2011), and which use a wide variety of business models (Alha, Koskinen, Paavilainen, Hamari, & Kinnunen, 2014; Alha, Koskinen, Paavilainen, & Hamari, 2016; Hamari, 2015; Hamari, Hanner, & Koivisto, 2017a; Hamari, Hanner, & Koivisto, 2017b; Hamari & Järvinen 2011; Hamari & Lehdonvirta 2010; Lehdonvirta, 2009; Mäntymäki & Salo 2011; Mäntymäki & Salo 2013). Moreover, games are increasingly used for instrumental purposes (e.g. gamification, serious games, simulation games, and games-for-a-purpose) (Hamari, Huotari, & Tolvainen, 2015; Hamari et al., 2016; Huotari & Hamari 2016; McGonigal, 2011) as well as increasingly as a eSport (Hamari & Sjöblom 2017; Sjöblom & Hamari 2017; Taylor 2012), although commonly held legacy beliefs still consider games as mere hedonic systems that are solely played by pre-adolescent males.

It is evident that significant amounts of complexity, opaqueness and disconnect exist as to how games are generally perceived, as well as a theoretical turbulence in academia pertaining to their definition and position. Games are indeed a rather peculiar type of information system. Therefore, the reasons and motivations as to why people use them can also be expected to vary. Thus far however, games have commonly been seen as a singular type of technology: "Gamers just want to have fun" (Wu & Li, 2007; Yoon, Duff, & Ryu, 2013). However, it is evident that games present themselves as more manifold and multifaceted types of information systems that continue to prove an isle of theoretical ambiguity in the information systems field.

Due to this increasing divergence, the impact and significance of games as information systems, and understanding the nature of games and why people use them have therefore become especially timely and fascinating. Even though the topic has attracted substantial scholarly interest during the last decade (see e.g. Table 1), the current body of literature seems to be scattered and amorphous. Especially noted is that the body of literature on games is dispersed into a wide variety of different types of games such as experimental educational games (Bourgonjon, Valcke, Soetaert, & Schellens, 2010; Kuo, Lou, Hsin, & Dzan, 2011), mobile social networking games (Wei & Lu, 2014), and multi-million budget massively multiplayer online (MMO) games (Wang & Wang, 2008; Wu & Holsapple, 2014); and the bodies of literature on hedonic games and utilitarian games have thus far been disconnected. A large gap also exists between the purposes of games, i.e. between games for entertainment and those for instrumental purposes. This topic has been approached from variety of theoretical perspectives, such as the technology acceptance model (Davis, 1989), theory of reasoned action (Ajzen & Fishbein, 1980), and the uses and gratifications theory. Moreover, individual studies commonly investigate singular types of games and therefore typically have several issues that prevent a generalizability of their results such as their limited sample sizes or demographic biases. Moreover, almost no effort toward synthesizing this body of literature has yet been conducted. Therefore, in order to gain a comprehensive view of the multitude of factors explaining why people play or use games, an overview of the respective research is required. Although some game studies have been included in general technology acceptance meta-analyses (e.g. (Schepers & Wetzels, 2007)), no study has yet conducted a large scale analysis focusing specifically on the acceptance and use of game-related information systems.

In this study we aim to address this gap in our knowledge by mathematically meta-analyzing the quantitative literature that addresses the question of why people play/use games. Mathematical meta-analysis provides a highly accurate means of calculating the reasons and motivations why people use games across differing theoretical approaches and contexts of study. Therefore, we are not restricted by theoretical assumptions which stem from any specific theoretical frameworks. We examine the correlations between variables regardless of whether the analyzed studies had modelled a relationship between them. The primary objective of the study is to rigorously synthesize, validate and repeat those studies done on the question of why people play and use games. Therefore, our study not only presents highly reliable results on the topic, but is also able to take into account the relationships between variables that are not disclosed in the results of prior literature. Moreover, we also conduct structural equation modeling, based on the meta-analytically pooled correlations (MetaSEM,