Modeling Consumers' Observational Learning in Digital Gaming: A Conceptual Model

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Abstract. The present study intends to develop a conceptual model predicting videogame consumers' observational learning that is initiated through the playful-consumption experience of a digital game. To meet this objective, authors employed the hedonic theory of consumption experience and observational learning theory to propose a conceptual model demonstrating that it is the gamer's playful-consumption experience of a digital game which actually influences videogame consumers to observe and learn from the digital game. This study is first among others as it takes the theoretical support from hedonic theory of consumption experience, particularly the playful-consumption experience in predicting the videogame consumers' observational learning in the videogame environment. The study is based on the conceptual model and hence, another empirical study is under way to prove its validation in the videogame setting.

Keywords: Hedonic theory · Playful-consumption experience
Observational learning · Digital game

1 Introduction

Pong was the initial videogame that was developed by Atari in 1972. The huge success of Pong stimulated a spate of competitors and Atari to develop the first-generation of home consoles comprising Magnavox Odyssey, Taito's Gunfight, and the Home Pong [1]. Since then, each consecutive generation of gaming-consoles has pushed the medium forward, with achieving various key milestones for instance, 3D graphics and etc. that have boomed the videogame industry [1]. Authors further added that the term videogame now covers many subgroups that have grown rapidly such as arcade games, PC games, mobile games etc.

In literature, there is no agreed definition of the term videogame that everyone needs to follow in his or her study. However, a number of videogame definitions can be found in a review study by Stenros [2] in which he discussed all possible definitions of

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a videogame. In this study, we follow the definition of a videogame given by Aarseth [3] as *games are facilitators that structure player behavior, and whose main purpose is enjoyment* [2]. A videogame means any digital game/electronic game that is played by a consumer/player on a personal computer, smartphone, tablet, handheld device or dedicated video gaming console. Aarseth [3] further added that a theory in videogame playing should focus on player behavior instead a videogame.

According to entertainment software association report, videogame has several genres such as action, shooter, arcade, strategy, role-playing, racing, arcade, adventure, flight, fighting, family entertainment, children's entertainment, causal, sports games and other videogames/compilations [4].

Recently, Jason Allaire, associate professor of psychology and co-director of the gains through gaming lab added that now all ages of people play video games irrespective of age and gender, meaning that can be your boss, grandparent, or even your institutional professor [4]. Therefore, it has become an essential part of our routine life. Katie Salen, executive director of institute of play, stated that videogames offer a wonderful platform to videogame consumers for play and learning [4]. This viewpoint is consistent with the definition of a videogame given by Aarseth [3] in two ways: first, both authors have believed that a videogame provides a platform, whereby consumers play or enjoy playing a videogame. Second, both authors have talked about learning or shaping player behavior that derive from videogame playing. In this study, authors followed this viewpoint and conducted extant reviews of literature to address prior studies that have investigated how videogame playing has impacted on player or consumer behavior.

During an extant review of literature, the study found two main communities of researchers: one community of scholars investigated the negative outcomes of videogame playing on player behavior. Their studies reported the following negative effects of videogame playing on player's behavior such as impulsivity, attention problems, sleep deficiency, risk-taking, academic performance, musculoskeletal health problems and increased food consumption [5–12]. While some studies examined the effects of violent game playing on consumer's aggressive behavior and their results were proven to have association with playing violent games and player's aggressive behavior [5, 6, 13–15]. Few other scholars measured the role of online game addiction and its detrimental efffects on consumer behavior and their findings showed that depression, academic achievement, and conduct problems were significant with online game-addiction [16].

Another community of researchers focused on the potential benefits of videogame playing on consumer's skills and behavior. Their findings stated that videogame playing increases prosocial behavior, skills in social-cooperation, motivation and strengthen the skills to continue at stages of failure, and also enhances visuospatial skills and social involvement, which in turn reduces the moods of depression [17–22].

However, the present study is different from earlier studies as we do not focus on the positive or negative aspects of videogame playing on gamers or consumer behavior. Instead, we mainly look into the learning process, especially the observational learning process that how videogame consumers actually observe and learn from the videogame environment. For this reason, we aim to use the hedonic theory of consumption experience as it can capture playful hedonic experiences comprising the imaginal,

emotional, and sensory that originate from the computer-mediated settings such as videogames. More importantly, this theory is utilized to propose a conceptual model predicting videogame consumers' observational learning. The next section debates on the use of both theories such as hedonic theory of consumption experience and observational learning to develop a conceptual model.

2 Hedonic Theory of Consumption Experience

The article by Hirschman and Holbrook [23] is one of the earliest works to criticize the current literature for ignoring key facets of the consumption experience in the context of marketing and consumption. In their work, the authors coined the experiential aspects of consumption as being titled *"hedonic consumption"* to make the terminology distinct from the more recognized form of utilitarian consumption. Scholars have further argued that consumer behavior is not only restricted to buying decisions, but it also involves various and often important hedonic components *(fantasies, fun, and feelings)* which are derived from experiences when using products/services or even thinking about using products/services. Few studies have defined the term hedonic consumption as *"those features of consumer behavior that explain the multisensory, fantasy and emotive facets of one's experience with the product"* [23, 24]. Hence, hedonic consumption is described by fantasies, multisensory features, and emotional motives that are derived from the consumption of hedonic products. Several studies have explained that hedonic products are those goods that have the potential to arouse a consumer's feelings, fantasies, and multisensory aspects [25] and playing a videogame comes under the umbrella of hedonic products [26].

2.1 The Videogame is a Hedonic Product

According to Marchand and Hennig-Thurau [21], videogames are defined as hedonic products, as their playful consumption involves emotional responses, constructs imaginary, and entails the multisensory aspects. Voss et al. [27] also classified videogames as high-hedonic/low-utilitarian products. Some studies have conceptualized videogames as being interactive and computer-mediated structures, which facilitating the experience of videogame play [28, 29]. The experience of videogame play is also explained by Salem and Zimmerman [30] as *"playing a videogame is truly considered as experiencing a videogame."* However in the literature of marketing and videogame, a few scholars [28, 31–33] have conceptualized the videogame playing experience as playful-consumption experience.

2.2 Playful Consumption Experience

In the field of hedonic consumption, consumer scholars have revealed the importance of theorizing the playful-consumption and defined the construct of playful consumption as "intrinsically motivating, active and self-based consumer behavior" that is executed for its own sake and pleasure [23, 28, 31, 34]. Moreover, these scholars have also stated that such playful-consumption behavior also involves the three main playful hedonic

experiences feelings, sensory and fantasy arising from the consumption of hedonic products. In their seminal article, Holbrook, et al. [31] argued that playful-consumption falls into the broad category of intrinsically motivated consumer behavior comprising hobbies, esthetic appreciation, creativity, sports, and games. Most recently, Buchanan-Oliver and Seo [28] have reported that the perspective of playful-consumption has become mainly important for the unique kinds of play, which is facilitated by computer-mediated settings such as videogames.

In the field of marketing and videogame literature, few studies have conceptualized the act of playing a videogame as playful-consumption experience [28, 31, 34]. Therefore, this study follows the definition of playful-consumption given by these scholars [28, 31, 34] and define as playful-consumption experience is an intrinsically, motivating, active, and self-based videogame playing behavior that is executed for a player's own sake and pleasure, which in turn involves a player to get playful hedonic experiences (feelings, sensory and fantasy) [33].

In literature, Wu and Holsapple [35] were the first authors who applied the hedonic theory of consumption experience, especially the role of imaginal and emotional experiences in predicting the system-use behavior but they ignored to study sensory experience in their research. Later, we have found another study in which they have shown the importance of gamers' playful-consumption experiences of a digital game comprising imaginal, emotional, and sensory experience influencing on multiple engagement states (cognitive, affective, and behavioral) of consumer videogame engagement [36]. More recently, the authors have proposed another conceptual model demonstrating that it is the player's overall playful-consumption experience of a digital game which influences on the overall consumer videogame engagement [32]. After reviewing both studies, we have found that one study has focused on the sub-dimensions of constructs and whereas, the other study has only emphasized on the use of higher-order level of constructs.

In another study by Mukherjee et al. [34] added that playful-consumption experience of digital gaming influences players' mastery, skill development, and learning. Several other studies have also stated that gaming experience has the potential to impact on players' decision-making processes, thought and learning and to enhance gamer's knowledge, problem solving and learning skills [37–39]. Through previous studies, it has been proven that videogame playing experience is a source of player's learning. Therefore, this study develops a hypothesis stating that videogame consumers interact with digital gaming environment and attain their playful-consumption experience of gaming, which in turn provide them an opportunity to observe and learn though videogame elements.

H_1: Playful-consumption experience of gaming positively influences consumers' observational learning.

3 The Theory of Observational Learning

The observational learning theory is originated from the stimulus-response (S-R) behaviorist psychology which is termed as social learning theory by Albert Bandura and his colleagues in the period of 1960s [40–42]. As per this theory, people learn

actions or behaviors via noticing the model and then repeating the learnt actions in either the exact manner or in the new shape of a behavior. Authors consider the social learning theory as a comprehensive model to realize a human behavior [43]. We in this study, mainly emphasis on the use of observational learning theory and its basics to understand the modeling process in digital gaming context.

According to observational learning theory, behavioral responses are instigated through modeling-based stimulus [40, 44]. Within this theory, there are three main modeling-based stimulus comprising direct, verbal, and symbolic-based modeling. In symbolic-based modeling, individuals learn a behavior through observing a behavior that is portrayed in the media which comprise television, movie, dramas, videogame and etc. In this paper, we have a focal concern with the symbolic-based modeling using a videogame as a medium.

3.1 Video Games as Symbolic-Based Modeling

The main justification for selecting a videogame as symbolic-based modeling is, videogame product is created for pleasure, fun, and entertainment purposes [45]. Despite having the pleasure oriented attributes of digital gaming, a videogame playing has the ability to hold consumers for longer duration and hence, capturing their whole attention [46]. It has been witnessed that when consumers gain playful-consumption experience of a videogame, they get involved in the videogame environment that they consider themselves as a main role player in the videogame [46]. This in turn, influences consumers to play videogames for longer span of time [46]. Such a longer engagement in videogames help consumers learn via noticing the models portrayed in videogame settings [40].

This is due to the fact that nowadays every videogame has story-based environment whereby different role-plays or characters are involved which have become the basis for gamers to learn through the observation of models [45] and hence, impacting the behavioral learning in forms of behaviors, skills or knowledge acquisition [47].

4 Hypothesis Development

Korkealehto and Siklander [48] have also discussed that videogames and technologies are capable of triggering players' attention and increasing their motivation level, which in turn influence the players to learn from videogames. For instance, Zarzycka-Piskorz [49] applied the use of language games to assess whether the students were able to learn the language and authors found the satisfactory results. The playful-consumption experience of a videogame is one of the triggers that can engage and motivate videogame consumers to learn from videogame contents that are accessible via a range of narratives, virtual characters, environments, and multimedia elements [49, 50]. Abdul Jabbar and Felicia [50] further added that such videogame related elements are integrated to gain players' attention and interest. As a result, players' engagement in videogame playing is initiated and due to which they get more opportunities to observe and learn from videogame elements.

Few other authors have stated that the playful-consumption experience of a videogame is one of the important elements of human development and vital for human cultural advancement [51]. Coyne et al. [52] have studied the co-playing digital games with family outcomes, and the authors resulted that gamers have developed their prosocial behaviour. Baabdullah [53] has evidenced that videogames now provide a platform through which many players get interacted, learn from other players, and enhance social relationships among players. Several authors have debated that the playful experience of educational videogames has generated positive learning outcomes, especially in the literacy learning [54], in science [55], and mathematics [56].

The common thing we have noticed in the above studies is, the playful-consumption experience of a videogame is producing some kinds of learning but how such learning is initiated in videogame playing has never been discussed by any studies. Hence, the current study is interested in developing a conceptual model to explicate the learning process in videogame literature. For this purpose, the conceptual model as shown in Fig. 1, has developed with the help of playful-consumption experience and observational learning theories. Utilizing both theories, we have proposed a conceptual model stating that when videogame consumers interact with a digital game environment and they gain playful-consumption experience of a videogame play. Their playful-consumption experience further provides them with an opportunity to observe and learn through videogame elements. On this basis, we have developed the hypothesis stating that videogame consumers' observational learning is instigated through playful-consumption experience of a videogame.

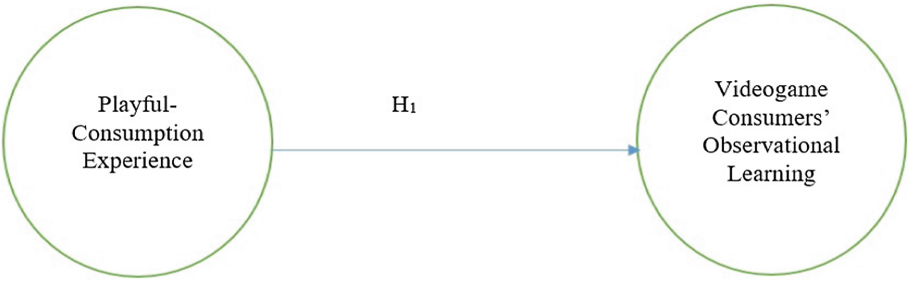

Fig. 1. Modeling videogame consumer's observational learning

5 Conclusions

In this study, authors observed that many studies have been conducted on either positive or negative changes on the gamer's behavior in form of personality traits. However, it has never been discussed that how such a change actually happen in the gamers' behavior. We have motivated from this point and aimed to develop a conceptual model that can illustrate the process of change or learning in the gamers' behavior. A conceptual model has been developed on the basis of hedonic theory of consumption experience and observational learning theory. Within the hedonic theory of consumption experience, we took the aspect of playful-consumption experience of a

videogame in predicting consumers' observational learning in the videogame environment. While using the observational learning theory, we focused on the symbolic-based learning that occurs through observing the models shown in the videogame play. On the basis of both theories, we have developed a conceptual model that with gaining the playful-consumption experience of a digital game, consumers get an opportunity to observe the models such as role-plays, characters or story-based environment as shown in the videogame environment and learn either the same behavior or new pattern of the behavior.

6 Contribution and Future Work

This study contributes to almost every single study that has previously stated that videogame playing has positive and negative changes. For instance; authors found that videogame playing has adverse effects on teenagers' behavior such as aggressive behavior [14, 57, 58]. These studies have only shown that teenagers become more aggressive with playing videogames but these studies have not shown any mechanism through which such a change occur in the gamers' behavior. However, our conceptual model has the potential to contribute in their studies through giving an overview of the learning process that may have incurred during the videogame play. Teenagers may have gained the playful-consumption experience of a videogame that has violent content related things. During the videogame play, teenagers may have observed the models such as characters, role-plays or story-based environment performing the violent related behaviors, which in turn may have caused gamers to act either in the same manner or a new pattern of the behavior such as aggressive thoughts or behavior. Our study conceptual is applicable to every single videogame that is bringing a change in the gamers' behavior. Entertainment industry can adopt this conceptual model to bring a change in the gamers' behavior, especially in accordance to the developers' mindset. The present study is a conceptual study and therefore, a future empirical study is required to validate the conceptual model.

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