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# Hedonic Motives:

Influencing players' impulse buying purchases of virtual goods

by

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# Abstract

- Title:** Hedonic Motives: Influencing players' impulse buying purchases of virtual goods
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- Keywords:** impulse buying, impulse purchases, video games, virtual goods, free-to-play games
- Thesis purpose:** This thesis aims to investigate the broad and well-established phenomenon of impulse buying from a different and unexplored angle. Furthermore, it seeks to explore if players purchase virtual goods on impulse. In addition to this, the purpose of the study is twofold, and it focuses on the examination of certain hedonic motives and if they influence players to purchase on impulse. The second purpose of this study is to test if age and gender, which are demographic characteristics, are able to moderate the relationship between hedonic motives and impulse purchases of virtual goods.
- Methodology:** An explanatory study was selected since the problem being examined is well-structured. Moreover, potential relationships between the independent variables (hedonic motives) and the dependent (impulse purchases of virtual goods) were also investigated.
- Theoretical perspective:** This thesis consists of three literature streams. The first one, refers to the offline and online impulse buying, the second concerns the hedonic motives and the final stream includes literature regarding the video game industry.
- Empirical data:** Primary data was gathered through a web survey. Exactly 65 responses were selected from players who play video games and purchase virtual goods.

**Conclusion:**

By investigating the impulse buying phenomenon through the video games category, light is shed upon an unexplored topic where the literature is still scarce. Players' purchase behavior was studied through hedonic motives which were proven to affect consumers' buying decisions. The results indicated a significant association between the hedonic motives and player's intention to impulsively purchase virtual goods. Moreover, the challenge dimension which is not a hedonic motive was included in the category since it affects players intention to play.

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Lund, Sweden, May 29, 2019

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Hristiana Dyulgerova

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# 1 Introduction

## 1.1 Background

### 1.1.1 Consumer behavior and Impulse buying

In the marketing field, one of the most complex issues is consumer behavior, due to its market heterogeneity as well as the number of factors that affect it in different ways, always depending on the situation (Žnideršić, Grubor & Marić, 2014). One of the most well-known and established phenomena of consumer behavior nowadays is impulse buying (Bhakat & Murugantham, 2013). Impulse buying is related to unplanned buying decisions that are often made without any planning task (Stern, 1962). In addition to this, Rook (1987) argues that impulse buying occurs when consumers face with a sudden urge to purchase something when they see it. Furthermore, the author states that buying on impulse is hedonically complex action and can lead to emotional conflict. Moreover, researchers have studied this phenomenon for many years, however, this phenomenon is still popular and often examined (Stern, 1962; Rook, 1987; Dey & Srivastana, 2017).

According to Hausman (2000), 30 to 50% of all sales are made from impulse purchases, whereas around 90% of all consumers purchase on impulse occasionally. Research has indicated that both internal and external factors positively influence consumers' impulse buying behavior (Bhakat & Muruganatham, 2012). To begin with, internal factors such as personality and lifestyle traits were found to affect individuals to purchase on impulse (Rook, 1987). Additionally, marketing characteristics such as product sales as well as advertisements are considered as external factors. Moreover, the store atmosphere consisting of music, colors and light was identified to drive consumers to purchase on impulse (Bhakat & Murugantham, 2013).

### 1.1.2 Online Impulse buying

Studies indicate that there is a transition from offline/traditional impulse buying to online impulse buying (Liu, Li & Hu, 2013). The main reason for this shift was the development of digital technologies and the increasing number of online services (Parboteeah, Valacich & Wells, 2009; Wells, Parboteeah & Valacich, 2011; Wu, Chen & Chiu, 2016; Chan, Cheung & Lee, 2017). The definitions of offline and online impulse buying do not differ to a great extent. Traditional impulse buying is related to unplanned buying decisions made on the spur of the moment (Piron, 1991). Similarly, online impulse buying consists of unplanned purchases performed in the online environment (Chen & Zhang, 2015).

Furthermore, researchers claim that people that purchase online tend to be more spontaneous than traditional shoppers (Donthu & Garcia, 1999). Therefore, online shoppers are more likely to purchase on impulse; and they are also considered as less risk-averse (Donthu & Garcia, 1999; Madhavaram & Laverie, 2004). In addition, around 40% of the people purchasing online consider themselves as impulse shoppers (Verhagen & van Dolen, 2011; Liu, Li, & Hu, 2013). Moreover, impulse shoppers find it difficult to control their desires and behavior when searching on the internet, and often end up purchasing unnecessary goods and services (Wells, Parboteeah & Valacich, 2011).

In addition, hedonic motives were identified to have a positive effect on consumers impulse buying behavior (Babin, Darden & Griffin, 1994). Furthermore, hedonic motives are related to pleasurable emotions and lead to purchases for enjoyment and/or pleasure (Gültekin & Özer, 2012). In addition to this, Ozen and Engizek (2014) state that hedonic shopping motivations can be placed into five dimensions. These dimensions are idea shopping, adventure/explore shopping, value shopping, gratification/relaxation shopping and social shopping. Numerous researchers have identified hedonic motives such as fun, arousal, fantasy, social interaction and outside appreciation to have a great influence on consumers impulse buying behavior (Verplanken, Herabadi, Perry & Silvera, 2005; Yu & Bastin, 2010; Asnawati & Sri, 2018).

### 1.1.3 The Video game industry

Nowadays, one of the rapidly growing industries in revenues is the video game industry, due to the proliferation of digital technologies in the network (Wijman, 2018). When the digital platforms were first introduced into the game industry, its revenues increased dramatically by each year (Limelight, 2018). In 2018 the global game market generated \$137.9 billion, from which \$70.3 billion were made out of mobile games (Wijman, 2018). According to the author, an increasement of 13.3% was indicated compared to 2017 revenues. In addition to this, video games played on PCs and consoles have generated \$32.9 billion and \$34.6 billion respectively.

In addition, numerous researchers have investigated the motives that drive players to play video games (Sherry, Greenberg, Lucas & Lachlan, 2006; Yee, 2006; Souza & Freitas, 2017). The investigators indicated that motivations such as fun, social interaction, arousal, challenge, competition and diversion have a positive effect on players intention to play (Sherry et al. 2006). Furthermore, age and gender are demographic factors which were found to influence players buying behavior (Yee, 2006). Finally, fun was identified as the key factor that leads consumers to start playing video games, however, time flexibility, arousal and competition were indicated to not have any effect on players intention to play (Souza & Freitas, 2017).

Moving to the examination of one of the most profitable categories of video games, should be highlighted that the free-to-play games noted a dramatic increase in their revenues (Hanner & Zarnekow, 2015). In 2018 approximately \$88 billion were generated only from free-to-play games (Handrahan, 2019). Furthermore, games that do not require any payment in advance and which can be downloaded or get for free are considered as free-to-play games (Guo & Barnes, 2011). The top three free-to-play games by revenue for 2018 were, Fortnite which generated

\$2.4 billion, *Dungeon Fighter Online* with \$1.5 billion and *League of Legends (LOL)* that made \$1.4 billion (Handrahan, 2019). Studies examining which factors affect players to play free-to-play games and pay for additional content in those games, they found that fun, unobstructed play, social interaction, fantasy, diversion and economical rational are among these factors (Hamari, Alha, Järvelä, Kivikangas, Koivisto & Paavilainen, 2017).

In order to generate revenues in free-to-play games, game developers tend to develop and sell in-game content or also known as virtual goods (Hanner & Zarnekow, 2015). This method of making a profit is also known as a freemium business model, which was indicated as the dominant one for 2018 (Handrahan, 2019). The name of the model is a combination of the words free and premium and it suggests that the attributes of the specific product/service are offered to the customer for free (Ratiu, 2016). In the game industry, the freemium business model is known as a free-to-play revenue model (Alha, Koskinen, Paavilainen, Hamari & Kinnunen, 2014). Both players and game designers express mixed opinions about the free-to-play model (Alha et al. 2014; Hamari, 2015).

As it was mentioned previously, free-to-play video games generate revenues by selling virtual goods (Hanner & Zarnekow, 2015). Hamari (2015) defines virtual goods as in-game objects that are created and sold in free of charge games. These goods can be placed in two categories, ornamental and functional (Oh & Ryu, 2007). Ornamental or better known as cosmetic virtual goods aim to change the characters' appearance; examples of such objects are clothes and accessories (Hamari & Lehdonvirta, 2010). On the other hand, functional virtual goods help players to pass the levels and offer them a competitive advantage compared to the other players (Flunger, Mladenow & Strauss, 2017).

## 1.2 Problem Discussion

Žnideršić, Grubor and Marić (2014) claim that impulse buying is one of the theories of consumer behavior and it results in unplanned purchases. Researchers suggest that impulse buying is not a recently developed phenomenon but, it was established at the beginning of the 60s, however, these days studies continue to examine this concept (Stern, 1962; Dey & Srivastana, 2017). Furthermore, consumers express impulse buying behavior when they feel a sudden and irresistible urge to purchase a product or service, therefore, the purchase is made on impulse (Solomon, 2002). Numerous researchers have investigated both external and internal factors that were found to influence consumers impulse buying behavior (Rook, 1987; Hausman, 2000; Bhakat & Muruganatham, 2012). Their studies found that personality and lifestyle traits, products and stores characteristics as well as advertising campaigns positively influence consumers impulsive behavior.

Due to the increasing number of digital technologies nowadays, impulse buying was indicated to also occur in the online environment (Parboteeah, Valacich & Wells, 2009). Furthermore, people shopping online are characterized as more spontaneous than those that shop offline (Donthu & Garcia, 1999). Online impulse buying is defined as unplanned decisions that are

often performed on the spot, therefore without any detailed plan in advance (Chen & Zhang, 2015). In addition to this, hedonic motives were found to highly influence consumers' impulse buying behavior (Babin, Darden & Griffin, 1994). These motivations are strongly related to positive and negative emotions as well as feelings (Baumgartner, 2002). Moreover, compared to utilitarian motives hedonic motivations are more personal and subjective, and are often associated with fun and playfulness (Babin, Darden & Griffin, 1994).

Further, hedonic purchases were indicated to offer enjoyment and pleasure to the consumers (Gültekin & Özer, 2012). Additionally, fun, fantasy, outside appreciation, social interaction and novelty are hedonic shopping dimensions which were identified to lead to impulse buying (Dey & Srivastana, 2017). Moreover, among all motivations, social interaction was indicated to be the most dominant dimension that leads young people to purchase on impulse. Youngsters identify social interaction as the key motivation because when buying on impulse they claim that their friend's opinion as well as sale assistant view matters (Ha & Stoel, 2012).

The above-mentioned topics have been deeply studied during the years, however, another interesting for examination industry is the video game industry that grows with every year. In 2018 the revenues of the industry exceeded \$137.9 billion (Wijman, 2018). Nowadays, not all game companies generate profits by selling video games, but they also sell in-game content in free of charge games (Guo & Barnes, 2011). This new way of monetization has been established as a freemium business model (Ratiu, 2016). In the game industry, the freemium model is better known as a free-to-play revenue model (Alha et al. 2014). Furthermore, the freemium model can be found across other industries such as media and education (Neys & Jansz, 2010).

The video game industry consists of numerous categories, one of which are online games. Free-to-play games are also included in this category and are offered for free to the consumers, however, virtual goods are provided for sale in these games ensuring revenues to the game companies (Hanner & Koivisto, 2017). Plenty of studies have identified which motives lead players to purchase in-game content. Among these factors, Souza and Freitas (2017) found that fun, social interaction, fantasy, challenge and diversion have a positive influence on players intention to play. Additionally, economical rational, competition, unlocking content and unobstructed play were proved to affect players willingness to pay for virtual goods (Hamari, Alha, Järvelä, Kivikangas, Koivisto & Paavilainen, 2017).

Impulse buying is an important concept in marketing research since impulse purchases cannot be easily predicted and they are unplanned as well as made on the spot. Evidence supports that almost half of the purchases revenues are generated through impulse buying (Hausman, 2000). Furthermore, digitalization contributes to the increasement of impulse purchases in the online environment (Parboteeah, Valacich & Wells, 2009). However, impulse buying behavior along with hedonic motives that drive to purchases on impulse, have not been fully examined and understand in the video game industry, thus literature is still scarce. Therefore, this thesis will investigate if hedonic motives will positively influence players intention to purchase virtual goods in free-to-play video games.

## 1.3 Research Aims and Purpose

This thesis aims to investigate the broad and well-established phenomenon called impulse buying from a different and unexplored angle. Furthermore, it aims to explore if players purchase virtual goods on impulse. In addition to this, the purpose of the study is twofold and it focuses on the examination of certain hedonic motives and if they influence players to purchase on impulse. The second purpose of this study is to test if age and gender, which are demographic characteristics, are able to moderate the relationship between hedonic motives and impulse purchases of virtual goods. To do so, this will be achieved through the exploration of impulse buying from the video game perspective. More specifically, hedonic motives which have been proven to influence consumers to purchase on impulse will be investigated if they have a positive effect on players purchase behavior (Hausman, 2000). In conclusion, this thesis attempts to explore if players purchase virtual goods in free-to-play games on impulse.

## 1.4 Research Question

In order to address this aim and purpose, a quantitative study with a correlation and descriptive analysis will be performed and a web survey will be conducted using SPSS for the analysis. Moreover, hypotheses will be tested through the web survey and accepted or rejected based on the results. These hypotheses are based on the following research question:

Q1: What are the effects of hedonic motives on impulse purchases of virtual goods?

## 1.5 Outline of the Thesis

This thesis consists of six main chapters. The first chapter includes the introduction and background information on the topic as well as important terms that will be used in the next section. The authors of the study decided to include the problematization section in the introduction, where the problem that will be examined and the purpose of the thesis are presented. In the second chapter of the thesis, an exhaustive literature review will be offered which beginning with the broad phenomenon of impulse buying and narrowing down to the video game industry in which this phenomenon will be investigated. In the next chapter, the research model and hypotheses of the study will be introduced and well analyzed with supporting facts. Furthermore, the fourth chapter will describe in detail the method that was chosen for the examination of the topic. In addition, the following section after the methodology consists of the analysis and discussion of the findings. Finally, the last chapter will provide the reader with the conclusion of the research, the theoretical and managerial implications and with limitation as well as suggestions for further research.

## 2 Literature Review

This chapter aims to explore previous research on the topic under-examination and to provide a theoretical framework that will assist for the development of an interesting interpretation and a reliable analysis of the data. The chapter includes three literature streams. The first one consists of theories regarding offline as well as online impulse buying. The second refers to the hedonic motives which were proven to influence consumers' impulse buying decisions. The final stream embodies literature regarding the video game industry. These three streams will be connected into one research problem. The theories presented below contribute to the better understanding of the dominant themes in our research design and allow for the investigation of unexplored angles of impulse buying.

### 2.1 Impulse Buying

In this section, the meaning of impulse buying will be analyzed, and extensive definitions will be presented. The purpose is to differentiate impulse buying from other types of purchase behaviors. In addition, internal, external, situational factors as well as demographic characteristics will be introduced. These factors are considered as influential and have an impact on impulse buying purchases.

#### 2.1.1 The Impulse Buying Phenomenon

Numerous researchers have examined the impulse buying phenomenon (Stern, 1962; Rook, 1987; Piron, 1991). This phenomenon is often related to unplanned buying decisions, which are performed without any planning task (Stern, 1962). Previous studies only focused on the product aspect and on the impulse intention that the product itself causes to the consumers (Bhakat & Muruganatham, 2012). However, recent research has examined consumer impulse behavior and other personal traits that lead to impulse purchases (Rook & Fisher, 1995; Hausman, 2000; Harmancioglu, Finney & Joseph, 2009; Yu & Bastin, 2010). In opposition to Stern's work (1962), Rook (1987) states that impulse buying includes psychological aspects of impulse and is not only related to unplanned purchases. The most cited definition by Rook is presented below:

[i]mpulse buying occurs when a consumer experiences a sudden, often powerful and persistent urge to buy something immediately. The impulse to buy is hedonically complex and may stimulate emotional conflict. Also,



impulse buying is prone to occur with diminished regard for its consequences (Rook, 1987, p. 191).

Impulse purchases are different from the contemplative purchases as they often take place under intense and urgent conditions (Rook, 1987). The author claims that the whole impulse buying experience is quick; therefore, the impulsive behavior is considered as spontaneous. Furthermore, Rook argues that impulse buying is considered as emotional and less rational; thus, there is a risk to be perceived as negative. Finally, in opposition to contemplative purchases, during impulse purchases, consumers are urged to buy on impulse and this may lead them to out-of-control feelings (Rook, 1987).

Additionally, the phenomenon of impulse buying is related to unplanned purchases which are the outcomes of a quick consumer decision making (Rook & Gardner, 1993). The authors also propose that impulsive behavior is often influenced by three dimensions of mood; pleasure, arousal and dominance. Consumers should be motivated and mobilized enough in order to be encouraged to make a purchase on impulse (Rook & Gardner, 1993). Other researchers extended the impulse buying definition by underlining consumers' experiences as spontaneous (Beatty & Ferrell, 1998). They also state that a purchase is considered spontaneous when consumers' previous shopping intentions do not involve the purchase of a specific item in order to accomplish a planned task. A systematic examination of impulse buying has been conducted by Piron (1991) who interpreted the impulse purchases with the use of four elements. The author defines impulse purchases first of all as unplanned; secondly, as the outcome of an exposure to a stimulus, as decisions often made on-the-spot and finally, the impulse purchases include cognitive and/or emotional consumer's reaction.

### 2.1.2 Influential Factors of Impulse Buying

Efforts to understand the internal factors that affect the impulse buying behavior have been attempted by researchers (Bhakat & Muruganatham, 2012). One of these internal factors is consumers' lifestyle traits which are linked with the impulse buying phenomenon since materialism and other entertaining characteristics of shopping are associated with purchases on impulse (Rook, 1987). Moreover, another factor is personality traits, such as consumer's normative evaluations which can influence the relation between buying impulsiveness and consumers' behavior (Rook & Fisher, 1995). In particular, when the impulse buying act is considered as appropriate (O'Guinn & Faber, 1989; Rook & Fisher, 1995), or it satisfies a certain kind of consumers' needs (Hausman, 2000). Therefore, impulse buying behavior is difficult to be completely understandable; especially, when hedonic motives are also involved such as fun, social interaction, surprise and novelty (Hausman, 2000; Sharma, Sivakumaran & Marshall, 2010; Yu & Bastin, 2010).

In opposition, Bhakat and Muruganatham (2013) stated that there are also external factors that influence impulse buying behavior. More specifically, the authors argue that marketing characteristics such as product sales and advertisements have a positive impact on impulse purchases. Impulse buying urge and consumers impulse buying behavior are directly influenced

by the knowledge of new products as well as the consumer's desires for esteem and excitement; therefore, managers can implement characteristics such as fun and variety to their advertising campaigns in order to attract more customers (Harmancioglu, Finney & Joseph, 2009). Additionally, the store atmosphere which consists of attributes like sounds, colors, lights, sales and service personnel influence consumers impulse buying behavior (Bhakat & Murugantham, 2013). Furthermore, a pleasant and stimulating store environment increases consumers impulse buying intention (Hoyer & MacInnis, 1999). The product itself as well as the music are significantly important attributes and have a positive impact on impulsiveness (Verplanken & Herabadi, 2001). Consumers' emotions are also influenced by store environment (Xu, 2007; Mattila & Wirtz, 2008), and an unexpected urge to buy is derived from the consumers' perceptions and sensations (Rook & Hock, 1985).

On one hand, Kollat and Willet (1967) identified that demographic characteristics such as gender and age affect the need to buy on impulse. One demographic characteristic is gender, which was identified as a social category that also influences impulse buying (Dittmar, Beattie & Friese, 1995). Moreover, it was proved that females tend to purchase products on impulse which are connected with emotions, self-esteem as well as their appearance. On the contrary, males buy on impulse only products that have a correlation with outside activities and their independence (Dittmar, Beattie & Friese, 1995). Additionally, social factors such as opinions of other consumers and store employees were found to have a direct positive impact on impulsive behavior (Mattila & Wirtz, 2008). Besides these factors, it is proved that the presence of peers increases the impulsive urge to buy, however, the results for the family members indicated the opposite (Luo, 2005). Finally, cultural aspects were examined in order for impulse buying to be better understood. The findings indicated that more independent consumers or people characterized as individualistic have higher possibilities to be engaged with impulse behavior purchases (Kacen & Lee, 2002).

On the other hand, situational factors such as time and money availability were found to have an impact on impulse buying decision (Beatty & Ferrell, 1998). Moreover, time pressure was identified to have a significant effect on the relationship between consumers' mood and store environment (Xu, 2007). Therefore, if someone is exposed to impulse products, there is a higher possibility that he/she will act impulsively (Stern 1962; Jeffrey & Hodge, 2007). This indicates that the product itself and store characteristics have the ability to positively influence impulse buying decisions (Stern, 1962). Additionally, Yu and Bastin (2010) proved that impulse buying varies depending on product categories. Thus, different products lead to diverse impulse buying decisions. For instance, books and clothes are two categories of products that can be bought on impulse (Yu & Bastin, 2010). At the same time, the knowledge of new products is positively related with social norms and word-of-mouth and can also influence the urge to buy on impulse as well as consumers behavior (Harmancioglu, Finney & Joseph, 2009). Finally, consumers impulse buying tendency along with product involvement drive consumers to purchase products impulsively (Jones, Reynolds, Weun & Beatty, 2003).

## 2.2 Hedonic Motivations for Impulse buying

The purpose of this section is to identify which hedonic motives lead to impulse buying purchases. Therefore, all hedonic motives that offer positive and negative emotions to the consumers will be taken into consideration.

### 2.2.1 Definition of Hedonic Motives

Researchers support that impulse buying includes hedonic or affective components (Weinberg & Gottwald, 1982; Cobb & Hoyer, 1986; Rook, 1987; Piron, 1991; Rook & Fisher, 1995). In addition, evidence suggests that hedonic motivations may lead to impulse buying behavior (Babin, Darden & Griffin, 1994). Moreover, impulse buying behavior is difficult to be understood because of the multifaceted character of hedonic shopping (Hausman, 2000). Furthermore, when an impulse purchase is made, hedonic motivations connected to emotional motivations as well as feelings occur (Baumgartner, 2002). Hedonic motivations are considered as more personal and subjective in comparison to utilitarian motives. Impulse buying is strongly associated with playfulness and fun emotions (Babin, Darden & Griffin, 1994). Furthermore, hedonic motives lead individuals to purchase for enjoyment and/or pleasure (Gültekin & Özer, 2012).

According to Herabadi, Verplanken and van Knippenberg (2009), for consumers who purchase on impulse, impulse buying behavior works as a mechanism that regulates their arousal and also gratifies their temperaments. Therefore, the authors support that consumers' impulse buying intention is positively influenced by hedonic shopping motivations. Moreover, high-arousal emotions like pleasure and excitement drive impulse buyers' shopping experiences (Verplanken et al., 2005). Furthermore, hedonic motives such as fun, social interaction and novelty are fulfilled by impulse buying (Hausman, 2000). In addition to this research, it was found that need for novelty, social interaction, fun and escapism are hedonic values, and they lead shoppers to impulse buying purchases (Yu & Bastin, 2010). The research identified that if the use of a product or service offers entertainment, interesting experience, fantasy and sensory stimulation to the consumers then, it leads to hedonic shopping (Asnawati & Sri, 2018). Numerous researchers have proved that many hedonic desires can be satisfied by impulse buying (Piron, 1991; Rook, 1987; Thompson, Locander & Pollio, 1990). Also, hedonic needs are often related to emotions, and then both can be satisfied by shopping experiences (Hausman, 2000).

### 2.2.2 Hedonic Shopping Motivations

Previous research identified that utilitarian as well as hedonic shopping motivations have a similar pattern (Asnawati & Sri, 2018). The authors claim that during hedonic shopping consumers receive pleasure and fun from the purchasing activities. When performing hedonic

shopping, consumers usually do not plan in advance their purchases, therefore the purchases are made on impulse. Additionally, during hedonic shopping consumers most often buy products that they perceive as interesting (Kasser & Kanner, 2004).

Studies support that hedonic shopping motivations can be divided into five dimensions (Ozen & Engizek, 2014; Asnawati & Sri, 2018). The first dimension is adventure/explore shopping during which consumers discover new and appealing products and services, and they enjoy the fact that they need to search for them during the shopping process. According to the authors, the second category of shopping is the gratification/relaxation. In this dimension, shopping works as a way to deal with stress, problems and uncomfortable moods. In addition, value shopping is related to techniques that consumers do when looking for shops offering discounts. Moreover, during social shopping consumers prefer to shop and spend time with their family and friends and they consider this type of shopping as a social activity. Thus, when doing so they receive important information for the products/services that they want to purchase. Finally, the last dimension is idea shopping, consumers make purchases in order to stay tuned with the latest trends and to be updated for the new innovations and products in the market.

Research conducted in the online environment investigated if hedonic motivations affect consumers' impulse buying behavior (Ozen & Engizek, 2014). In addition, the researchers examined which of the above-mentioned hedonic shopping motivation dimensions mostly influenced individuals' online impulse buying intention. The results indicated that hedonic motives positively influence consumers' impulse buying behavior. Furthermore, the findings confirmed that consumers' online impulse buying behavior is positively affected by adventure, value and relaxation hedonic shopping motivations, however, the social shopping dimension has a negative effect. Moreover, the idea shopping dimension was supported to not significantly influence consumers' impulse buying intention.

Studies identified that impulse buying can operate as a supplement to the hedonic shopping dimensions such as social interaction, escapism, fun, outside appreciation and novelty (Yu & Bastin, 2010; Dey & Srivastana, 2017). Yu and Bastin (2010) claim that reciprocal communications are vital part of people social interactions. In addition to this, the authors argue that through impulse buying, people's social interaction friendships between people may occur. Furthermore, social interaction was identified as one of the key factors that lead youngsters to buy on impulse (Ha & Stoel, 2012). A well-known statement suggests that consumers often want to escape from undesirable emotions, to do so individuals indulge in impulse buying (Xu, 2007). When buying on impulse customers escape from their negative emotions and indulge in illusions and imagination (Darrat, Darrat & Amyx, 2016). Moreover, fun is associated with pleasure which increases instant indulgence that is connected with impulse buying (Rook, 1987). In addition, fun is considered as one of the main hedonic motives as well as the reason behind buying on impulse, mostly because it provides consumers with hedonic gratification (Gültekin & Özer, 2012).

A research conducted by Luo (2005) identified that outside appreciation, or also known as praise from other people, positively influences consumers impulse buying tendency. More specifically, peers' opinions as well as people's susceptibility being influenced by others have an effect on impulse behavior. Further, the study found that some consumers make impulse

purchases in order to receive praise from peers and also to show extemporaneity. In addition to this, novel products were found to lead to more impulse purchases (Yu & Bastin, 2010). The fact that consumers want to learn more about product novelty, lead them to more impulsive purchases (Harmancioglu Finney & Joseph, 2009). The results of Dey and Srivastana (2017) research confirmed that young people impulsive buying intention is positively associated with the above-mentioned dimensions of hedonic shopping.

## 2.3 From Offline to Online Impulse Buying

The aim of this section is to analyze the transition from offline to online impulse buying which was caused by the proliferation of digital technologies. To do so, offline and online attributes that lead to impulse buying purchases will be further explored.

### 2.3.1 Online Impulse Buying

Due to digitalization, more and more consumers switch from offline to online purchases (Parboteeah, Valacich & Wells, 2009). With the increasing number of digital technologies, the concept of impulse buying has broadened its horizons and is being explored via the internet (Parboteeah, Valacich & Wells, 2009; Wells, Parboteeah & Valacich, 2011; Wu, Chen & Chiu, 2016; Chan, Cheung & Lee, 2017). Internet shoppers can be described as individuals that are continuously searching for products and services that are convenient, impulse, diverse, less risky and novel (Donthu & Garcia, 1999). Consumers that purchase online perform online transactions, which lead to overspending, because shoppers do not feel that they are spending money (Dittmar, Long & Meek, 2004).

In contrast with traditional shopping, online purchasing has four main advantages (Wu, 2009). First of all, the prices of online and offline commodities do not differ to a great extent. Secondly, online products include rich information about the products' characteristics which leads to a reduction in information irregularities. Thirdly, online shopping can be performed at any time and space compared to traditional. Finally, shopping through a network enables consumers to search for specific products/services in a broader environment such as the internet that leads to minimization of time and effort. In addition to this, online payments are protected through security systems which generate positive attitudes toward this kind of payments.

People shopping online are more spontaneous than traditional shoppers (Donthu & Garcia, 1999). Online marketing activities allow for easily impulse purchases and online consumers are less risk-averse (Donthu & Garcia, 1999; Madhavaram & Laverie, 2004). Approximately, 40% of consumers buying online identify themselves as impulse shoppers (Verhagen & van Dolen, 2011; Liu, Li, & Hu, 2013). In addition, sometimes impulse shoppers are not able to control their behavior regarding visiting online stores and making purchases (Wells, Parboteeah, & Valacich, 2011). In particular, when online consumers perform online shopping activities, they

are considered as system users of the website as well as impulse shoppers (Wu, Chen & Chiu, 2016). Online consumers' behavior is characterized as sudden and unplanned regarding the process of purchase decisions that are often difficult to be understood (Floh & Madlberger, 2013). However, the intention to purchase in the online environment is highly influenced by consumers' willingness to buy on impulse (Zhang, Prybutok & Koh, 2006).

As it was mentioned previously, impulse buying is considered as a sudden and unplanned purchase (Wu, Chen & Chiu, 2016). It is often characterized as an action that occurs on the spur of the moment and emotions such as pleasure and excitement are related (Wu, Chen & Chiu, 2016). Similarly, Chen and Zhang (2015) argue that online impulse buying is considered as an action performed without having a detailed purchase target therefore, it is unplanned. It is also the outcome of a mental reaction to exterior stimulus gained from the network environment and is usually hedonically charged (Madhavaram & Laverie, 2004; Chen & Zhang, 2015). Online impulse buying offers the opportunity to consumers to have easy access to commodities as well as enable for faster purchase process than traditional impulse buying. Additionally, online impulse shoppers receive less social pressure and they do not need to carry heavy products since they will be delivered to them (Jeffrey & Hodge, 2007).

### 2.3.2 Digitalization and Attributes of Impulse Leading

Evidence indicates that impulse purchases also occur in the online environment (Liu, Li & Hu, 2013). Wells, Parboteeah and Valacich (2011) studied the relationship between consumer's inherent impulsiveness to purchase commodities and the quality of the websites. In particular, website quality is one of the factors that highly influence consumers' intention to buy on impulse. Furthermore, consumers that are characterized as highly impulsive can be influenced by different degrees of website quality. In addition, one important factor for understanding is consumers' inherent impulsiveness and their reactions to the changeable degrees of website quality (Wells, Parboteeah & Valacich, 2011). Moreover, Floh and Madberger (2013) argue that three atmospheric characteristics of electronic stores exist, and these are: content, navigation and design. In addition, the authors claim that these characteristics were investigated in order to approach impulse buying behavior and consumers' spending. Furthermore, the general conclusions of the study indicated that design and navigation have significantly positive effects on online impulse buying behavior. More specifically, online impulse buying as well as spending can be influenced by e-store design through elements such as browsing, enjoyment and impulsiveness. Additionally, the researchers found that online impulse purchases lead to e-stores' optimal navigability. Navigability may overcome the problem of consumers' dissatisfaction in the network, by allowing customers to reach unlimited browsing opportunities (Floh & Madberger, 2013).

A research conducted by Chen and Zhang (2015), identified that the influential factors of online impulse buying can be divided into four types. To begin with, the first category of the four types is the personal factor category which consists of impulse character, demographic factors and individuals' ability to desire to be accepted by others. External stimuli are the second category of influential factors and include advertising, website design and price promotion that are

elements of e-stores. Additionally, indirect stimuli such as online comments, recommendations from others and online services were found to have a positive impact on online impulse buying. Finally, income and perceived risk are considered as restraining factors and affect consumers' urge to buy on impulse.

Two types of browsing exist, hedonic and utilitarian (Park, Kim, Funches & Foxx, 2012). Hedonic browsing is based on enjoyment, fun and entertaining aspect of shopping, even if a purchase does not occur. However, utilitarian browsing aims to gain products via the use of goal-oriented behavior, heuristics, risk reduction strategies and successful research of information (Babin, Darden & Griffin, 1994; Janiszewski, 1998; Moe, 2003). Eventually, hedonic web browsing was identified to have a positive relationship with impulse buying purchases (Park et al. 2012). On the other hand, utilitarian web browsing was proven to have a negative impact on impulse buying.

## 2.4 Digital Industries: The Case of Video Games

The analysis of the video games industry and its profitability will be presented below. In addition to this, the different categories of video games will be examined. Moreover, previous research analyzing the motives of players to play video games will be clarified.

### 2.4.1 Characteristics of the Video Game Industry

Digital platforms proved to be a great benefit for the video game industry (Marchand & Thureau, 2013). The authors state that researchers as well as practitioners have examined this industry for more than four decades. According to Tomic (2017), the video game industry was formed at the beginning of the 80s. The author claims that the main reason for this creation was the progress in the information as well as communication technology, better known as ICT. Newzoo's 2018 Report indicated that there were approximately 2.3 billion active gamers in 2018, and around 1.1 billion of them spend money on video games (Wijman, 2018). The Cambridge Dictionary (2019) defines video games as games where players/gamers have full control of their game characters and moving pictures on the screen, by only pressing buttons. A video game is a game based on a story which can be played thanks to audiovisual apparatus (Esposito, 2005). Another definition provided by Zimmerman (2004 cited in Wardrip-Fruin & Harrigan, 2004) states that video games are voluntary interactive activities where one or more players follow the rules of the game. Finally, video game players can be identified as people that often play video games (Donohue, Woldorff & Mitroff, 2010). The authors state that depending on the type of the game, players may play alone or with friends/partners.

Souza and Freitas (2017) claim that based on how video games are played they can be placed in four general categories; console and PC games, internet-delivered games, serious games as well as mobile and online games. To begin with, the console video games are played with the

help of a console, which is a specially designed computer device that can be connected to a television or any other display and displays a video game that can be played by one or more players (Consalvo, 2006). The author states that Xbox and PlayStation are the two best-known consoles in the globe. In 2018 the console video games represented 25% of the Global Games Market and obtained \$34.6 billion (Wijman, 2018). In addition, PC games which are also known as computer video games are usually played on a personal computer (McMichael, 2007). Moreover, in 2018 players spent around \$32.9 billion on PC video games, this indicates a 1.6% increase from last year (Wijman, 2018).

Proceeding to the next category which is internet-delivered games, these games are delivered through the internet and can be played either online or offline if they are downloaded in advance (Beal, 2019). Furthermore, serious games can be seen as a form of media that through game entertainment aims to spread serious messages (Gee, 2003). The author suggests that playing serious games increases the motivation of students to learn in school. Therefore, serious games can be used in the education sector in order to ensure a more interesting and pleasurable way of learning (Neys & Jansz, 2010). Finally, Wei and Lu (2014) suggest that online and mobile games should be placed in two different categories.

Mobile games are usually played on phones, smartphones or even tablets and are the most profitable sector of the global game market (Wijman, 2018). In 2018 \$70.3 billion were spent on mobile games, from which \$56.4 billion were earned from smartphone games (Wijman, 2018). Online video games can be played partially or primarily through the internet (Adams & Rollings, 2006; Yee, 2006). Online games offer the opportunity to be played on different gaming platforms such as consoles, mobile devices as well as PCs (Quandt & Kröger, 2014; Papagiannidis, Bourlakis & Li, 2008). The authors claim that Massively Multiplayer Online Role-Playing games (MMORPG), together with first-person shooters and free-to-play games are the three most popular genres of online games.

#### 2.4.2 Motivations to play Video Games

Numerous studies have examined the video game industry in general and what motivates players to play in particular. To begin with, one of the first research examining the motivations of individuals to start playing video games was conducted by Sherry et al. (2006). By using mixed methods, the authors examined the reasons why people begin playing video games and what motivates them to continue playing these games. Based on both female and male responses they managed to rank the reasons on hierarchical order, starting from the most frequently stated motivations to the less. The results indicated that challenge, competition and diversion are the top three reasons that drive people to start playing video games as well as influence them to continue. In addition, arousal, fantasy and social interaction are factors that stimulate players to start playing video games, but have less effect on them when it comes to continuing playing (Sherry et al. 2006).

Moreover, another study which investigated players motivations in online games as well as how these motivations of play can be related to demographic characteristics such as age and gender



was presented by Yee (2006). The motivations were divided into three broad components, the first was achievement and it consisted of advancement, mechanics and competition, the second was social and included socializing, relationship and teamwork and finally, immersion in which the motivations were discovery, role-playing, customization and escapism. The results indicated that male players, in general, scored higher on the achievement components, however, female players scored significantly higher on the relationship subcomponent. Furthermore, the author found that age explains better the variation in the achievement components than gender (Yee, 2006). Lastly, the outcome indicated that there was a gender difference in the socializing subcomponent, but in the relationship not.

One of the recent studies examining players' motivations is the one conducted by Souza and Freitas (2017). In their research, they examined which attributes of the games positively affect consumers to play them and pay for them. Firstly, they tested if factors such as time flexibility, challenge, diversion, fun, social interaction, arousal, competition, and fantasy positively influence players' intention to play electronic video games. The results indicated that fun was the main reason why players play video games. In addition to this, challenge, diversion, fantasy and social interaction were also accepted as motives that influence players intention to play. However, time flexibility, competition and arousal were rejected and indicated that these factors do not positively affect players to play electronic games. Furthermore, the authors hypothesized if the intention to play will positively influence players' intention to pay for video games. The hypothesis was accepted and it demonstrated that players are more willing to purchase more electronic video games if they have played and liked other similar games previously (Souza & Freitas, 2017).

## 2.5 Free-to-play Video Games

In this section, the analysis of the online video games and the different categories of these games will be introduced. Emphasis will be put on the free-to-play video game category and the new freemium business model.

### 2.5.1 The transition from Offline to Online Video Games

According to Hamari (2015), a shift from offline video games to online video games can be observed in the market nowadays. The author claims that this shift has led to new challenges regarding games design, how they are market and what business model should the game developers should follow. Nowadays, the number of companies specialized in the production of online video games is drastically increasing (Hamari, 2015). Every day more and more online video games are launched (DFC Intelligence, 2011).

Moreover, studies indicated that there are different categories of online video games such as first-person shooters (FPS), massively multiplayer online games (MMOG), strategy games and

free-to-play video games (Quandt & Kröger, 2014). In first-person shooters (FPS) games players are the protagonists and they have the opportunity to compete against other players and to shoot them with guns and weapons (Quandt & Kröger, 2014). Furthermore, another category of online games is the massively multiplayer online games which consist of games that can be played via the Internet or over a LAN which is Local Area Network (Steinkuehler, 2004). In addition to this, the author argues that these games are called massively multiplayer because a huge number of players are allowed to play at the same time. In order to play strategy games, players should own skillful thinking and planning skills that lead to victory achievements. This type of games, offer strategic and tactical challenges and aim in stimulating players' minds (Rollings & Adams, 2003). Moreover, free-to-play video games are defined as games which are offered to the players for free. In this type of games, players do not need to buy the game in advance in order to have access to it and play it (Guo & Barnes, 2011).

### 2.5.2 Freemium Business Model

According to Ratiu (2016), the freemium business model is an increasingly dominant model, because of its unique way of generating revenues. The author suggests that the word freemium is a combination of the words free and premium and it indicates that the basic functions of certain product or service are provided for free, however, money is charged for its additional features. Examples of services following the freemium business model are Skype and LinkedIn, which are free of charge, but extra functions are charged (Ratiu, 2016). In the video game industry, the freemium business model is also known as free-to-play revenue model and is considered as a subcategory of the freemium model (Alha et al. 2014). The free-to-play model is mostly applied to online video games and more specifically to free-to-play games (Hamari, 2015; Hamari, Hanner & Koivisto, 2017; Hamari et al. 2017). In the video game industry, the dominant business model of 2018 was the free-to-play revenue model through which 80% of all digital games revenues were generated. In addition to this, around \$88 billion were generated from free-to-play games during the last year, 62% of which was earned in Asia (Handrahan, 2019).

In order to generate revenues, free-to-play video games offer and sell additional content which is also known as virtual goods (Hanner & Zarnekow, 2015). Therefore, players can play the game for free, however, different virtual goods such as additional lives, weapons and guns are offered in order for the players to improve their performance (Hamari et al. 2017; Flunger, Mladenow & Strauss, 2017). There are mixed attitudes toward the free-to-play revenue model (Alha et al. 2014; Hamari, 2015). On one hand, Alha et al. (2014) strongly argue that both gamers/players and professionals express positive opinions toward the free-to-play games, because these games can be played for free and people have the opportunity to decide if they want to continue playing for free or purchasing virtual goods. On the other hand, professionals find it difficult to develop games that are at the same time fun and challenging in order to stimulate the players to buy virtual goods (Alha et al. 2014). Moreover, the research found that if players enjoy the gameplay, they are less willing to purchase additional content in this game (Hamari, 2015).

### 2.5.3 Factors influencing Players to play and pay for Virtual Goods

Since the free-to-play online games are receiving a lot of attention, nowadays, numerous studies are investigating this category of games (Hamari, 2015). Therefore, researchers have been examining the buying behavior of players regarding the purchases of virtual goods in those games and more specifically the motivations of players to buy additional content (Hamari, 2015; Hanner & Zarnekow, 2015; Hamari, Hanner & Koivisto, 2017; Hamari et al. 2017). To begin with, Hamari (2015) investigated if players purchase virtual goods in free-to-play games because they enjoy the gameplay and want to continue playing or because they and their peers also have positive attitudes towards virtual goods. The study revealed that if players enjoy the gameplay, they are less willing to purchase virtual goods in the game, whereas the enjoyment increases their willingness to play continuously playing. In addition to this, the author indicated that the continues playing of a game leads to possible purchases of virtual goods. Moreover, the research found that players' as well as peers positive opinions toward the purchases of virtual items, increase players' willingness to buy additional content in the form of virtual goods in free-to-play games. To sum up, continuous play of a game as well as positive opinions of both players and their peers about the game lead to purchases of virtual goods (Hamari, 2015).

In order to contribute to the existing literature of the purchase behavior in free-to-play games, Hanner and Zarnekow (2015) conducted a study examining the purchase behavior for monetization, conversion as well as retention of players in free of charge games. The authors hypothesized if players can become paying customers, in other words, consumers of virtual goods, if their willingness to purchase decreases with the time passed before they start playing. The results showed that if players do not start playing a specific game some days after its installation, they will probably never buy virtual goods in this game. Furthermore, once a player starts purchasing virtual items his/her retention rate will increase with the next purchases. Finally, the research indicated that with every made purchase the player is immersing in the game and is more willing to purchase virtual goods in this game.

Hamari et al. (2017) argue that the existing studies have not focused on concrete motivations for purchases of virtual goods in free-to-play online games. Having this in mind the authors decided to fill this gap and investigate the motivations of players to play free-to-play games and purchase virtual items. They explored 19 motivations that were placed in six more general categories. The categories were social interaction, economical rationale, unobstructed play, competition, unlocking content and indulging the children. Thereafter, the authors studied the connections between the motivations and how much players spend on virtual goods. The results indicated that social interaction, unobstructed play as well as economical rationale were positively related to how much gamers spend on virtual goods. In addition, the study proved that the way game developers implement social interaction and artificial obstacles influences the amount of money players are willing to spend on virtual goods (Hamari et al. 2017).

## 2.6 Virtual Goods

The section below will examine virtual goods as a way of generating revenues in free-to-play games. Moreover, the two categories of virtual goods functional and ornamental will be analyzed. Finally, the motives that influence players to purchase virtual goods will be listed.

### 2.6.1 Definition of Virtual Goods

Researchers argue that the freemium business model is gaining a lot of popularity especially, in the gaming industry (Hamari, Hanner & Koivisto, 2017). The number of video game companies adopting the freemium business model or also known as the free-to-play revenue model in the game environment is continuously growing (Heier, 2015). Therefore, virtual goods are the new monetizing process that game companies use to ensure higher profits (Hanner & Zarnekow, 2015). According to Lehdonvirta (2009), the term virtual goods refers to objects, also known as virtual items that are sold in free-to-play games with the purpose of generating revenues. Virtual goods are considered as digital in-game objects that can only be used in the game they were purchased in (Hamari, 2015).

### 2.6.2 The two categories of Virtual Goods

Oh and Ryu (2007) claim that virtual goods can be divided in two categories, functional and ornamental. Weapons, guns and the ability to purchase extra lives in video games are considered as functional virtual goods (Hamari & Lehdonvirta, 2010). Players buy functional virtual goods to ensure their characters' ability to compete against other players as well as to offer them performance advantage (Oh & Ryu, 2007; Flunger, Mladenow & Strauss, 2017). However, this category is not very popular among the players, because it is considered as paying to win and is usually frowned upon by the gaming community (Flunger, Mladenow & Strauss, 2017). On the other hand, ornamental virtual goods are the ones used for decorative purposes and aim in changing the characters' appearance and ensuring uniqueness to the user (Flunger, Mladenow & Strauss, 2017).

Ornamental virtual goods are also known as decorative or cosmetic virtual goods (Lehdonvirta, 2009; Ho & Wu, 2012; Hanner & Zarnekow, 2015; Hamari et al. 2017; Flunger, Mladenow & Strauss, 2017). Examples of such goods are clothes and accessories for the characters as well as new skins (Hamari & Lehdonvirta, 2010). Furthermore, some players prefer to buy decorative virtual items rather than functional, because those that purchase functional items are underestimated by other players (Lin & Sun, 2011). Moreover, the authors claim that some game companies encourage gamers to buy virtual goods, mostly because their price is higher and lead to better profits for companies.

Hamari et al. (2017) argue that game developers tend to implement artificial obstacles and limitations in free-to-play games in order to stimulate the players to purchase more functional virtual goods. Additionally, the authors claim that game designers create free-to-play online games in such ways to make harder for the players to continue to the next level. This leads players to purchase functional virtual items in order to continue playing the game. Investigators believe that this is unethical practice and game developers should avoid creating games with artificial limitations and obstacles to stimulate the generation of revenues (Alha et al. 2014).

### 2.6.3 Drivers to purchase Virtual Goods

In her study, Lehdonvirta (2009) examined what drives players to spend money on virtual goods. More concretely, the author investigated which features and attributes of virtual goods attract consumers to purchase them. In order to analyze which attributes of virtual goods influence consumers to purchase them based on their use, the author divided the virtual items into three categories: hedonic, social and functional. Moreover, Lehdonvirta argues that hedonic attributes consist of aesthetic attributes and are also important in the game environment especially when it comes to performance. Animations and on-screen representations are considered as hedonic attributes. Additionally, players may gain hedonistic pleasure from the sufficiently compelling aesthetic aspects of the virtual items.

Furthermore, it is difficult to distinguish between social and hedonic attributes (Lehdonvirta, 2009). In her research, Lehdonvirta indicated that players often describe characters' appearance as fashionable or stylish, however, what is considered as fashionable depends on social opinions, but it is also a matter of aesthetic quality. Therefore, game designers find it difficult to indicate which attributes are social and which are hedonic. Finally, functional attributes are the ones that offer functionality and performance advantage to the players in the video games and significantly affect players purchase behavior. The results of the study indicated that hedonic and social attributes are closely related and virtual goods features such as branding, visual appearance and sounds, background friction as well as customizability positively influence consumers to purchase them.

In addition to Lehdonvirtas' research, Kim, Gupta and Koh (2011) also investigated what factors drive players to purchase virtual items. The study was based on a social network community (SNC) members. The authors also examined the three dimensions of customer value: emotional/hedonic, social and functional. The key findings of the research are consistent with the findings of Lehdonvirtas' (2009) study, and indicated that social and emotional/hedonic values of virtual goods are the ones that influence players' intention to buy virtual goods.

Moreover, the factors as well as consumption values that influence players' intention to buy virtual goods in online games were examined (Ho & Wu, 2012). Furthermore, the research identifies the effects on consumers intention to buy virtual goods. These effects are the satisfaction with the game, the identification with the character, the game type and the theory of consumption values. The results indicated that game type is a moderator variable that

positively influences players' purchases of virtual items. In addition, Ho and Wu (2012) argue that theories of consumption values such as playfulness and functional quality strongly affect role-playing gamers. Furthermore, players playing war-strategy games are more willing to pay for virtual goods when they are satisfied with the game, they can identify themselves with the character and finally, the game provides consumption values (Ho & Wu, 2012).

## 2.7 Chapter Summary

To conclude, literature regarding both offline and online impulse buying was examined in this chapter. In addition to this, hedonic motives identified to influence consumers to purchase on impulse were explained in details. Furthermore, existing literature about the video game industry and its development during the years was presented above. Unfortunately, studies examining the video game industry and players buying behavior are scarce. Moreover, research that investigates if players purchase additional content in video games on impulse was not identified. Therefore, the aim of this chapter was to prove that impulse buying and the video game industry are not two different, but combinable dimensions. In the next chapter, the theoretical framework along with the hypotheses will be illustrated.

## 3 Theoretical Framework and Hypotheses

This section will investigate if certain hedonic motivations can positively influence players to purchase virtual goods in free-to-play games on impulse. Moreover, challenge which is not a hedonic motive, but was identified to affect players intention to play video games will be tested. Furthermore, if demographic characteristics such as age and gender influence players intention to purchase will be examined. Finally, the theoretical framework on which this thesis is based is presented below.

### 3.1 Hedonic Motivations that influence players to play video games

#### 3.1.1 Fun

Wood (2005) strongly argues that fun is the key hedonic shopping motivation which influences consumers purchase behavior. Fun is often associated with pleasure that boosts instant indulgence which is related to impulse buying (Rook, 1987). In addition to this, it was stated that fun offers hedonic gratification to consumers, therefore, it is linked with impulse purchases (Gültekin & Özer, 2012). Moreover, it was identified that consumers satisfy their hedonic desires by engaging in impulse shopping (Hausman, 2000). Furthermore, fun can also exist as a hedonic motive in the online environment; thus, when shoppers purchase online, they satisfy their hedonic needs (Park et al. 2012). Chen and Zhang (2015) suggest that online shopping moods are positively related to impulse buying feelings. The authors recommend that online stores should have fun websites in order to stimulate consumers enjoyable emotions (Chen & Zhang, 2015).

Souza and Freitas (2017) state that video games also offer fun, pleasure, gratification as well as entertainment. The fact that players can control their in-game characters and feel part of the game, it makes them enjoy the situation, this demonstrates that fun is an aspect that may influence players intention to play (Shelton, 2010; Cohen, 2014; Jin, 2014; Pe-Than, Goh & Lee, 2014; Wei & Lu, 2014). Eventually, entertainment is the key reason for video games to be created (Souza & Freitas, 2017). In addition, the authors claim that fun and entertainment are considered as two of the main conditions that affect the game market. Therefore, they suggest that games that do not include an entertainment factor will never appeal to players. However, fun is a factor that varies to a great extent from person to person, and it often depends on the connection that the player has with the game (Caroux et al. 2015; Bowman et al. 2016). Moreover, Jin (2014) claims that players search for fun and entertainment through video games,

therefore such factors need to be considered when designing a game. Having this in mind, the first hypothesis is:

**H1:** Fun will positively influence impulse purchases of virtual goods.

### 3.1.2 Fantasy

Hirschman and Holbrook (1982) identified fantasy as one of the hedonic shopping motivations since consumers can express different types of emotions when purchasing a product. Moreover, consumers may fantasize about a certain product or service (Baumeister, Heatherton & Tice, 1994). In addition to this, factors such as fantasy fulfillment, increased arousal and escapism lead consumers to hedonically valuable shopping experiences; therefore, fantasy can be considered among the hedonic shopping values (Hirschman, 1983). Furthermore, when consumers purchase in a hedonic way, the use of the products usually offers them entertainment, by fulfilling their fantasies or providing them with interesting experiences (Asnawati & Sri, 2018). Hedonic shopping is related to the pleasure that consumers obtain from shopping activities (Kasser & Kanner, 2004).

Sherry et al. (2006) argue that video games offer players opportunities to do things that they cannot normally do in real life, for instance, to fly and drive race cars. Moreover, one potential influence that motivates players to play is creating imaginary characters or personas in video games (Jin, 2014; Shelton, 2010; Sherry et al. 2006). Additionally, the authors suggest that players make their dreams come true through playing video games and pretending to be superheroes. Furthermore, players are allowed to live different lives when playing and to pretend to be someone else, in this way they fulfill their fantasies (Jin, 2014; Shelton, 2010; Sherry et al. 2006). According to Kahn et al. (2015), through fantasy, players find ways to escape from the real world and their problems. In addition to this, the creation of imaginary stories as well as environments is related to fantasy. Hence, video games work as incentives for creativity and imagination (Giammarco et al. 2015). The authors state that fantasy increases players intention to play because it helps them to immerse themselves in the game. The second hypothesis is as follows:

**H2:** Fantasy will positively influence impulse purchases of virtual goods.

### 3.1.3 Social Interaction

Social interaction has been identified as one of the main hedonic shopping motivations (Yu & Bastin, 2010). Song and Zinkhan (2008) argue that mutual communications are interrelated parts of people social interaction. Impulse buying placates the emotions caused by social interactions which are embedded in shopping (Park, Kim & Forney, 2006). In addition to this, consumers tend to make impulsive purchases when they interact with their friends and loved ones (Yu & Bastin, 2010). Furthermore, social interactions between consumers and store employees, as well as other customers lead to purchases on impulse (Mattila & Wirtz, 2008).



Researchers suggest that some consumers tend to impulsively purchase products when their friends and relatives are with them and they suggest them to buy a certain product or service (Westbrook & Black, 1985; Cox, Cox & Anderson, 2005). Furthermore, social interaction was identified as one of the key motivations that drive shoppers to online purchases (Ha & Stoel, 2012).

Social interaction is defined as an interaction between users (Chen, Lu & Wang, 2015). Moreover, the authors argue that players who play social games seek interaction with friends and aim to keep social connections by playing those games. In addition, social interaction is a very important factor for those players that want to make connections with other players, socialize and feel part of a community (Souza & Freitas, 2017). Therefore, games which offer social interaction were identified to motivate players to play more (Sherry et al. 2006; Shelton, 2010; Pe-Than et al. 2014). Furthermore, social interaction in games was also identified to involve meeting with other people as well as the exchange of information (Dalisyay, Kushin, Yamamoto, Liu & Skalski, 2015). Social interactions are embedded in both competitive as well as community focused games (McGloin, Hull, & Christensen, 2016). How successful online games' communities are, depend on the communication and interaction between the players (Kollock, 1997). Finally, Jin (2014) argue that social games allow the players to keep in contact even when they do not play, by offering them chat rooms. Within this context, social interaction is the basis of the third hypothesis.

**H3:** Social interaction will positively influence impulse purchases of virtual goods.

#### 3.1.4 Arousal

According to Gültekin and Özer (2012), emotional arousal was determined as one of the hedonic shopping motivations. When purchasing on impulse, consumers tend to experience feelings such as enthusiasm, amusement and joy (Weinberg & Gottwald, 1982). Therefore, high arousal leads to impulse buying emotions like excitement and pleasure (Verplanken et al. 2005). When consumers shop on impulse, they experience emotional arousal (Gültekin & Özer, 2012). The consumption of products such as games, food and books arouse emotions which lead consumers to hedonic shopping (Hirshman & Holbrook, 1982). Sarkar (2011) claims that customers who perform hedonic shopping prefer to have direct contact with the product or service that they will buy or the salesperson, this interaction becomes stimuli and leads to the creation of hedonic arousal. Hence, the author argues that hedonic customers would rather purchase offline than online. Furthermore, during online impulse buying, consumers that experience pleasure from their purchases, they also receive a positive effect of arousal (Shen & Khalifa, 2012).

In their research, Souza and Freitas (2017) identified that users looking for video games aim to stimulate their emotions since those games offer excitement to the players. In addition, the authors claim that when players play, they tend to be attentive and alert; and they only focus on the game, which automatically reduces their awareness of other existing stimuli. Researchers found that players state attention may raise their heartbeats, adrenaline and blood pressure; all

these factors influence players arousal (Grizzard, Tamborini, Sherry, Weber, Prabhu & Hahn, 2015). The idea of arousal may be described in numerous ways to explain players' experiences. Games that allow players to exercise their alertness, activity and attention make the players enjoy the game as well as stimulate them to play more; hence, arousal becomes a key element that influences their intention to play (Jin, 2014). Therefore, arousal was recognized as a motivating factor for players (Engl & Nacke, 2013; Grizzard et al. 2015). Thus, the fourth hypothesis is:

**H4:** Arousal will positively influence impulse purchases of virtual goods.

### 3.1.5 Diversion/Escapism

In the shopping environment, escapism refers to escape from real life problems and negative emotions by purchasing commodities (Dey & Srivastana, 2017). Furthermore, To and Sung (2014) argue that diversion is closely related to social escapism. Similarly, authors support that escapism belongs to hedonic motivations; therefore, diversion is also regarded as a hedonic motive (Yu & Bastin, 2010). Especially, when consumers shop online, they tend to escape from their daily routines and enjoy the world of shopping (Parsons, 2002). The author also claims that one advantage of online shopping is that customers have the opportunity to reach numerous e-stores which are usually difficult to be reached, without the need to leave their houses when doing so.

Sherry et al. (2006) state that players often play video games in order to avoid stress and responsibilities. Moreover, the authors found that players tend to play games to escape from stressful situations, relax, fill their time as well as when they have other things to do (Sherry et al., 2006; Shelton, 2010; Jin, 2014). The above-mentioned statements define what diversion in video games states for. Users' gameplay is highly influenced by diversion because it allows for the minimization of players boredom and encourages them to spend their time playing (Paavilainen, Hamari, Stenros & Kinnunen, 2013). In addition, video games attract players attention and release them from their daily duties, but sometimes this leads to their addiction (Souza & Freitas, 2017) Therefore, diversion is identified as one of the main factors that influence players intention to play (Kim & Ross, 2006). Based on the above information the fifth hypothesis is:

**H5:** Diversion/escapism will positively influence impulse purchases of virtual goods.

### 3.1.6 Challenge

When consumers purchase online, they face a number of challenges which can be both positive and negative (Wu, Chen & Chiu, 2016). More specifically, negative challenges such as unorganized e-store web design, the limited availability of products and the fact that customers cannot have physical contact with them as well as the lack of information can lead to the development of individuals' web skills (Keller & Bless, 2008; Thatcher, Wretschko & Fridjhon,

2008). On one hand, if customers perceive too high challenges and find it difficult to overcome those problems, they become anxious and frustrated. On the other hand, if challenges can be easily overcome, this leads to consumers loss of interest and their boredom (Guo & Poole, 2009). Koufaris (2002) states that consumers identify websites challenges similar to video games challenges.

According to Sherry et al. (2006), players like to play video games because those games offer them the opportunity to develop a higher level of skills. They also feel accomplished when they manage to reach the next level of the game. Challenge was identified as one of the key components that motivates players to play video games and achieve their specified goals (Shelton, 2010; Engl & Nacke, 2013; Pe-Than et al. 2014). In addition to this, authors support that those video games which include challenges are the ones that cause social interaction between the players (Caroux, Isbister, Le Bigot & Vibert, 2015). However, challenges should be balanced because if players face with difficult games this may discourage them to continue playing. On the other hand, the game can become boring for the players, when they can reach the next level with ease (Sherry et al. 2006). Researchers suggest that through overcoming challenges, players enhance their learning abilities, the more difficult the challenge to get over, the greater the learning (Hung, Sun, & Yu, 2015; Hamari et al. 2017). Even though challenge has not been identified as a hedonic motive in impulse buying literature, in video games is considered as one of the core motives for players to play; therefore, it will be tested if it influences players to purchase on impulse.

**H6:** Challenge will positively influence impulse purchases of virtual goods.

## 3.2 Age and Gender in Impulse Purchases

Wolman (1973) proved that gender and age are demographic factors that were identified to influence impulse buying purchases. Furthermore, people that often purchase on impulse share common characteristics as well as personality traits (Youn & Faber, 2000). More specifically, young people are more likely to purchase on impulse, rather than older people; therefore, age is an individual characteristic that affects impulse buying (Bellenger, Robertson & Hirschman, 1978). In addition, gender was also identified to have an effect on consumers impulse buying behavior (Dittmar, Beattie & Friese, 1995). Moreover, the authors state that depending on their self-concept, individuals tend to purchase products and services that apply to their personalities. Studies identified that male shoppers are more willing to buy instrumental and leisure items on impulse rather than women. The reason behind these purchases is the fact that men prefer to be independent and to fix broken things by themselves (Dittmar, Beattie & Friese, 1995). On the other hand, female customers prefer to engage in symbolic and self-expressing purchases that can change their appearance and the way the rest of the people perceive them (Dittmar, Beattie & Friese (1995).

In the video game industry, demographic characteristics were also found to influence players purchase behavior (Lee, Lee, Lee & Lee, 2015). The authors state that gender and age are among all the most influential factors when it comes to purchases of virtual goods. Moreover, it was found that women tend to purchase more cosmetic virtual goods, which enable their characters' appearance to be changed (Griffiths, Davies & Chappell, 2004). On the other hand, male players prefer to buy functional virtual goods that assist for their better performance as well as offer them a competitive advantage in the game. Furthermore, the research conducted by Lee et al. (2015) indicated that female players buy virtual goods more frequently than male; however, male players spend higher amounts than women. When it comes to age, the authors supported that older people tend to purchase more frequently than younger players, but the amount that they spend compared to youngsters is smaller. Taking into consideration this information, the last two hypotheses will be:

**H7:** Players' age will moderate the relationship between hedonic motives and impulse purchases of virtual goods.

**H8:** Player's gender will moderate the relationship between hedonic motives and impulse purchases of virtual goods.

*Table 3.1 List of Hypotheses*

<b><u>Hypotheses</u></b>
H1: Fun will positively influence impulse purchases of virtual goods.
H2: Fantasy will positively influence impulse purchases of virtual goods.
H3: Social interaction will positively influence impulse purchases of virtual goods.
H4: Arousal will positively influence impulse purchases of virtual goods.
H5: Diversion/escapism will positively influence impulse purchases of virtual goods.
H6: Challenge will positively influence impulse purchases of virtual goods.
H7: Players' age will moderate the relationship between hedonic motives and impulse purchases of virtual goods.
H8: Player's gender will moderate the relationship between hedonic motives and impulse purchases of virtual goods.

### 3.3 Theoretical Framework

The theoretical framework presented below aims to determine if hedonic motives have an effect on players purchases of virtual goods. Hypotheses one to five are hedonic shopping motivations that have been proven to influence consumers to purchase on impulse, however, hypothesis six is not a hedonic motive, but was identified to have a high effect on players’ purchase behavior of additional in-game content. Age and gender will also be examined if they have a positive effect on players impulse purchases of virtual goods. Therefore, the independent variables of the thesis are the categories of: Fun, Fantasy, Social Interaction, Arousal, Diversion/ Escapism and Challenge. In addition, the dependent variable is the Impulse purchases of virtual goods. Finally, the moderate variables that influence the relationship between the independent and dependent variables are Age and Gender.

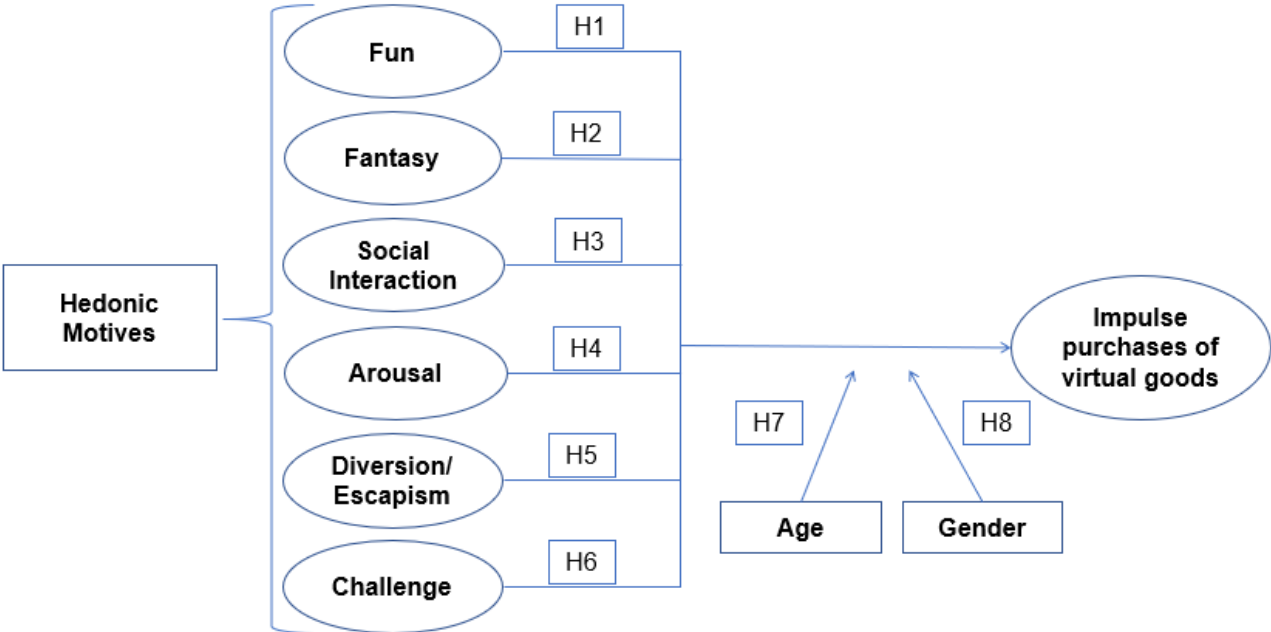


Figure 3.1 Theoretical Framework

# 4 Methodology

The aim of this chapter is to present the approach that has been taken for the completion of the research. The steps that have been followed for the fulfillment of the methodology part of this thesis are analytically presented. In addition to this, the statistics theories used for the chosen method are explained and details are provided. This chapter consists of numerous categories and subcategories created for the better presentation of the methodology part.

## 4.1 Research Approach

### 4.1.1 The nature of Business Research

In any research, the aim of the research question(s) along with the purpose is to guide the research approach of the study (Bryman & Bell, 2015; Easterby-Smith, Thorpe & Jackson 2012). Bryman and Bell (2015) state that two main theories exist in the research field, inductive and deductive. On one hand, the inductive theory begins with the observation or description of a certain phenomenon, continues with its analysis and finishes with the explanations of the observation. In other words, the theory is developed from initial data, therefore is a bottom-up approach. Inductive theory is often associated with qualitative studies (Burns & Burns, 2008). On the other hand, deductive theory refers to the process of gathering materials/data about existing theories or research and is based on the available information deducing hypotheses. In a simple word, theories and hypotheses lead to the revision of existing theories or the creation of new theories (Bryman & Bell, 2015). Moreover, when conducting a quantitative research, deductive research approach is usually used since quantitative researchers aim in testing hypotheses (Ghauri & Grønhaug, 2005; Saunders, Lewis & Thornhill, 2007; Yilmaz, 2013).

Based on the above information and having in mind the purpose of the thesis, a deductive research approach seems more suitable since it allows for the examination of casual relationships between variables and enables the development of a theoretical framework (Creswell, 2009; Bryman & Bell, 2015). Therefore, the reason behind this decision is the twofold purpose that the thesis intends to reach. First of all, the purpose is to investigate the relationship between hedonic motivations (fun, social interaction, fantasy, arousal, diversion/escapism and challenge) which are the independent variables and the dependent variable that is impulse purchases of virtual goods. Secondly, it will be further examined to what extent the relationship between the dependent and independent variables will be affected by the moderated variables (gender and age).

#### 4.1.2 Philosophical Considerations

According to Smith (2003), ontology is the science that examines what is the structure of different objects, processes, properties, kinds and events in all areas of reality. Very often metaphysics is used as a synonym to ontology, mostly because it means what it comes after the physics. Occasionally, ontology is used in a broader sense, since it regards the reality as well as the existence of nature (Easterby-Smith, Thorpe & Jackson, 2012). In social sciences, philosophical debates occurred some years ago and as a result, four ontological positions appeared; nominalism, relativism, internal realism as well as realism. Easterby-Smith, Thorpe and Jackson (2012) claim that studies placed at the nominalism side of ontology, commonly refuse the existence of truth. Therefore, those people support that individuals are the designers of their own version of the truth. In addition to this, people that take a relativism position suggest that truth can be divided into numerous perspectives depending on the view of each observer. In contrast, internal realism accepts that truth exists, however, it is obscure and this may lead to consequences. Therefore, facts cannot be proved directly. Finally, the realism ontology suggests that a single truth can be achieved only by facts (Easterby-Smith, Thorpe & Jackson, 2012).

A better understanding of the nature of the social as well as of the physical world is called ontology, and it is offered by the epistemology study (Easterby-Smith, Thorpe & Jackson, 2012). Therefore, epistemology consists of the theories of knowledge which concern the question of how individuals are able to know certain kind of things regarding the surrounding world (Bryman & Bell, 2015). Evidence for a conflict among the social science researchers exists and this has led to the creation of two opposing epistemological studies; the positivism and the constructionism (Easterby-Smith, Thorpe & Jackson, 2012). Positivism is possible to occur when the existence of the social world is accepted externally. Moreover, different methods can be used in order to measure and support facts. In opposition, the key idea of constructionism is the acceptance of many perspectives regarding reality. Therefore, the constructionism researchers gather measurable facts, but also focus on individuals' attitudes. The reason behind this is that scientists are also concerned about people opinions (Bryman & Bell, 2015). However, researchers state that two more categories of epistemology exist: strong positivism and strong constructionism (Easterby-Smith, Thorpe & Jackson, 2012). The authors suggest that these studies are considered more extreme; therefore, they belong to the two opposite sides of epistemology.

Regarding this thesis, the ontology that was chosen is internal realism, concerning epistemology this study is a positivism research. This decision was made because the impulse buying phenomenon has been investigated by numerous researchers, thus, it is considered as a well-established in the consumer behavior theory. Therefore, this thesis accepts the truth that consumers are influenced by hedonic motives and can proceed to purchases on impulse. However, the ultimate objective of the study is to examine the impulse buying phenomenon through the video game industry and more specifically by the free-to-play video games. Furthermore, the existence of positive correlations between influential hedonic factors and

players' impulse purchases of virtual goods will be hypothesized. In order to test this relationship survey examining players' attitudes, seems to be the most appropriate method.

## 4.2 Research Design

The purpose of the research design section is to offer a general overview of the chosen method of the study as well as the reason for its selection (Saunders, Lewis & Thornhill, 2007). The authors claim that a research design consists of all plans and procedures that are made in order to reduce the broad assumptions to more detailed methods. This is achieved through the collection of empirical data, its measurement and finally analysis. Moreover, the research design aims to solve the research problem in the most optimal way based on the circumstances (Ghuri & Grønhaug, 2005; Creswell, 2009; Bryman & Bell, 2011). Furthermore, authors claim that a research design can be placed in three classes, explanatory, descriptive and exploratory (Saunders, Lewis & Thornhill, 2007). The three categories exist due to the fact that the design should rely on the specific structure of the problem (Ghuri & Grønhaug, 2005; Saunders, Lewis & Thornhill, 2007; Bryman & Bell, 2015).

To begin with, the purpose of descriptive studies is to offer excellent information structure of the current condition where the problem can be well-defined, known as well as structured (Ghuri & Grønhaug, 2005). Furthermore, Saunders, Lewis and Thornhill (2007) suggest that the main aim of explanatory research is to create a relationship between the under-examination variables by investigating a specific problem or situation. In addition to this, explanatory studies are identified to be similar to descriptive studies regarding the solving of structured problems (Ghuri & Grønhaug, 2005). However, explanatory research is different from descriptive research because it aims to explore the cause-and-effect relation between the variables. Last but not least, exploratory studies examine to what extent an issue can be understood and if possible, evaluated in a new light (Saunders, Lewis & Thornhill, 2007). Moreover, the authors suggest that exploratory research takes place when the under-examination problem is unfamiliar and has not been previously understood.

In opposition to Saunders, Lewis and Thornhill (2007), Bryman and Bell (2015) suggest that two more research designs should be added to the existing three. They claim that experimental and cross-sectional designs are extremely important and should be included in the design categories. When performing an experimental study, the researcher has the ability to manipulate the independent variable and then identifies if the dependent variable is changing (Burns & Burns, 2008). Usually, the aim of these studies is to find if a relationship between the variables exists. The strict control of the variables is essential when conducting experimental research or also known as laboratory study. On the other hand, Easterby-Smith, Thorpe and Jackson (2012) support that cross-sectional design seeks to describe any phenomenon in details and to gather all available information about it. Cross-sectional studies are often related to social survey studies; however, because of the word survey which is related to questionnaires, the authors prefer to use the cross-sectional term.



In regards to this thesis, the explanatory research design is considered as the most appropriate, because the problem that the thesis examines is well-structured and the purpose is the examination of the relationship between the independent variables (hedonic motives) and the dependent (impulse purchases of virtual goods). Moreover, a second purpose is the investigation of the influence that the moderating variables have on the relationship. Finally, this research can also be considered as cross-sectional, since this type of studies focus on the current aspects of the under-examination phenomenon at the exact time when the research takes place (Saunders, Lewis & Thornhill, 2007; Bryman & Bell, 2015).

### 4.3 Data Source

Burns and Burns (2008) claim that data can be collected in two ways depending on how it is gathered. Primary data refers to new data which has been collected by the researcher. On the other hand, the authors argue that secondary data refers to the data that has already been selected and exists in the literature review (Burns & Burns, 2008). Before investing time into research, secondary sources should be taken into consideration, as they allow for a better understanding of the topic that will be researched as well as the existing knowledge and methodologies (Easterby-Smith, Thorpe & Jackson, 2012). Furthermore, by reviewing secondary sources researchers have the ability to identify research problems or unstudied fields in the literature, and to fill this gap by conducting their own research (Burns & Burns, 2008). One of the advantages of primary data is that it offers more control to the researcher since both possible data gathering from participants as well as the sample's structure can be managed by the researcher (Easterby-Smith, Thorpe & Jackson, 2012). Thus, the researcher may feel more certain about the objectivity of the collective data. However, the collection of primary data is considered more expensive compared to secondary data since it requires more time and effort. On the other hand, individuals can access secondary sources easier as they have already been collected and are available offline and online (Easterby-Smith, Thorpe & Jackson, 2012). When conducting this thesis, only primary data was used. This type of data was collected through an online survey which contributed to the relevant knowledge about this research topic. Thus, due to the novelty of this subject and the lack of available sources, the collection of primary data allowed for more concrete information about the attitudes, motivations as well as the behavior of the respondents to be gathered.

### 4.4 Research Strategy

Bryman and Bell (2015) argue that qualitative and quantitative research can be placed in two different clusters of research strategy. On one hand, quantitative research focuses on the collection and analysis of numerical data. Furthermore, the authors claim that this type of research requires a deductive approach which aims to test the relationship between the already established theories and studies, and it emphasizes on the theory testing. In addition, the

quantitative research method has incorporated the practices of positivism and also views social reality as an objective reality that is external. On the other hand, qualitative research focuses on the collection and analysis of words (Bryman & Bell, 2015). Compared to quantitative, qualitative research requires an inductive approach the purpose of which is the generation of theories. Additionally, qualitative research rejects positivism, however, it is more oriented to constructionism the purpose of which is the theory creation (Bryman & Bell, 2015).

The most common way of collecting quantitative research is through surveys (Saunders, Lewis & Thornhill, 2007). Furthermore, surveys are used to describe certain aspects of in advanced identified population by numerical data (Glasow, 2005). Very often these aspects include the relationship between the dependent and independent variables which are aimed to be examined. In addition to this, the findings of any survey are focused on a specific portion of the population, however, they can be generalized later on back to the population (Glasow, 2005). Moreover, Saunders, Lewis and Thornhill (2007) state that one of the advantages of surveys is that they enable the researchers to gather a large amount of data from the population in a very economical way. The authors also suggest that surveys use questionnaires to obtain as much data as possible since they allow the investigators to reach a huge number of people.

Therefore, the quantitative research method was decided to be used in this thesis as it examines the relationship between the variables in a numerical way (Malhotra, 2007). In addition, survey strategy is considered as the most appropriate since it allows for the collection of data from numerous individuals from the population (Bryman & Bell, 2011). Furthermore, the survey was chosen due to the limited available time for gathering data as well as the budget constraints. Therefore, the hypotheses were tested through a survey questionnaire and the available knowledge on the topic was enhanced.

## 4.5 Data Collection Method

### 4.5.1 Online Social Surveys

Nowadays, the number of surveys conducted in the online environment is dramatically increasing (Bryman & Bell, 2015). Online social surveys can be placed in two different categories, the first one consists of those which are sent through email and are also called email surveys. The other category includes surveys that are administered via the Web, known as Web surveys. These surveys are created online and invite the respondents to complete the questionnaires online. With the increasing number of digital technologies, web surveys are gaining popularity, therefore, more people use the internet to come in contact with people as well as participants for their studies. Moreover, Bryman and Bell (2015) claim that web surveys have numerous advantages compared to email and other types of surveys. To begin with, web surveys have the ability to reach an enormous number of participants, almost everyone that has access to the web. However, email surveys can only reach people that have email addresses and the researchers are aware of.

Furthermore, in their book Bryman and Bell (2015) mentioned that the variety of formats and colors that the web surveys offer, compared to paper-based questionnaires are considered as an advantage. In addition to this, the surveys that can be accessed via the Web can be easily designed, corrected and managed based on the researcher preferences. For instance, the questions of web questionnaires can be filtered and programmed to go to different questions depending on the respondents' responses. Finally, from the investigator's perspective, the main advantage of web surveys is that the final data can be downloaded very easy, and the researchers do not need to insert it into Excel or SPSS; therefore, entry data errors are avoided.

On the other hand, there are some disadvantages of web surveys (Bryman & Bell, 2015). Firstly, the response rate of internet surveys can be lower than the other categories of surveys because the respondents require motivations or rewards to answer the surveys. Moreover, the fact that web surveys are restricted to only people that have access to the web is considered as a disadvantage (Bryman & Bell, 2015). The authors also suggest that issues related to anonymity and confidentiality discourage the individuals to answer online questionnaires. Some people believe that their personal information and responses can be used in the virtual environment or even against them, therefore they are afraid to answer such surveys. Last but not least, the fact that respondents can answer web surveys more than once is identified as a disadvantage (Bryman & Bell, 2015).

Despite the fact that web surveys have both pros and cons, the results of this thesis are based on an online questionnaire. This method was chosen as it minimizes issues related to inserting data. Moreover, because of the limited available time as well as resources, a web survey was preferred (Bryman & Bell, 2015). Furthermore, having in mind the complicated topic and the fact that the research only focused on players that purchase virtual goods in free-to-play games, it was easier for the researchers of this study to reach more people through the internet.

#### 4.5.2 Questionnaire Design – Self-completed Questionnaires

Self-completed questionnaires or also known as self-administrated, they allow the respondents to complete them by themselves (Bryman & Bell, 2015). Moreover, the authors suggest that self-completed questionnaires can be found in numerous forms. For instance, the most widely used forms are postal and mail questionnaires, and as it can be understood by their names they are sent through the post or email. After, the completion of the survey the respondents have the responsibility to return back the surveys. Easterby-Smith, Thorpe and Jackson (2012) argue that another type of questionnaires that are becoming very popular nowadays, and these are the online questionnaires which can be accessed and completed at any time. Furthermore, this type of questionnaires does not require from the respondents to send them back to the researchers.

According to Bryman and Bell (2015), surveys and questionnaires consist of different types of questions. Open and close questions are often used by the researchers to identify what respondents' beliefs and opinions of the topic are as well as general information about them. Open questions refer to the questions that do not include any suggested answers and the respondents have the ability to answer them as they wish (Easterby-Smith, Thorpe & Jackson,

2012). The key advantage of the use of open questions in surveys is that they allow the respondents to express their opinion. Moreover, this type of questions does not limit the range of answers, and also permit for expansion and clarification of closed questions. However, the fact that open questions require more effort and time to be answered make them tiresome for the respondents. Additionally, since the analysis of the survey data relies on coding, open questions may be difficult and time-consuming to be analyzed (Bryman & Bell, 2015).

On the other hand, close questions offer a set of answers from which the respondents are asked to choose the most appropriate (Saunders, Lewis & Thornhill, 2007). These questions are easier to be processed and allow the researchers to compare the answers. The authors claim that the availability of answers helps the respondents to clarify and understand the questions in a better way. In addition to this, some respondents find close questions easier and less time consuming than open questions. In opposition, studies suggest that close questions do not allow the respondents to be spontaneous and to state their beliefs, therefore, should be avoided. Furthermore, sometimes when individuals should select an answer from a list of answers may feel pressure, because they cannot decide which answer best applies to them (Bryman & Bell, 2015).

The survey conducted for the thesis' purpose included only close questions, thus, open questions were not used at all. Moreover, personal factual questions about the respondents' gender, occupational status and age were created and personal information was collected (Bryman & Bell, 2015). In addition, most of the questions in the survey aimed to examine respondents' attitudes toward purchases of virtual goods based on a Likert scale.

#### 4.5.3 Measurement and Scaling Procedures

Burns and Burns (2008) claim that in 1932 Likert created a method that enables for the attitude measurement of people. In order to measure their respondents' attitudes, researchers are asked to select a number of statements that can test individuals' opinions about different topics. Then, the people are invited to choose which of the following categories best apply to their personality: Strongly/Totally Disagree, Disagree, Undecided/Neutral, Agree, Strongly/Totally Agree. This scale of measurement is best known as the Likert Scale and it was named after its founder (Burns & Burns, 2008). Moreover, this scale can be found in more than five categories, for example, in seven categories, however, the 5-point Likert scale is the most commonly used. In addition to this, to calculate respondents attitudes numerical values are assigned to the answers. Taking as an example the 5-point Likert scale, 1 usually represents the negative category of Strongly Disagree, however, 5 refers to Strongly Agree. The total score of the answers is calculated by adding all answers together (Bryman & Bell, 2015).

Some of the advantages of the use of the Likert scale are related to the fact that this method depends on empirical data that regards to individuals' responses and not on subjective judgments (Burns & Burns, 2008). Moreover, Bryman and Bell 2015 claim that this method is very useful because it produces homogeneous scales as well as raises the likelihood that unitary attitudes are measured which lead to the increasement of reliability and validity of the research.

In opposition, opponents of the Likert scale argue that this measurement method does not differ in a great extent from the other ordinal scales, as it measures individuals' favorableness but not how much is the one more favorable from the other. Finally, critics of the Likert scale criticize researchers for offering combinations and possibilities of answers to the respondents (Malhotra, 2007).

When conducting the survey for the thesis, statements of previous studies were adopted and modified for the purpose of the research. The main reason for this decision was the limited available time and the opportunity to compare the results with some already analyzed conclusions. Firstly, two items measuring fun were adopted from Jin (2014) research and minimally changed so can apply to the study. In addition to this, four statements indicating fantasy were adopted from Sherry et al. (2006) and adapted to the thesis concept. Moreover, both Sherry et al. (2006) and Souza and Freitas (2017) used items to test social interaction as an influencing factor in the game industry, therefore, three statements were used and modified for the free-to-play video games.

Arousal and diversion/escapism are two elements proved to affect players to play more video games, thus, four and two items respectively were adopted from Sherry's et al. (2006) study and included in the survey questionnaire. Finally, challenge was the last motive that it was aimed to be examined, therefore, four items from Jin (2014) and Sherry et al. (2006) were collected and adapted to examine the free-to-play games. *Table 4.1* illustrates all hedonic motives categories and the adapted statements. In order to examine if players purchase virtual goods on impulse eight items of Rook and Fisher (1995) research were adopted and changed so they can apply to the questionnaire. *Table 4.2* shows all adapted items.

*Table 4.1 Variables of the Adapted Scale in Free-to-play Games*

<b>Variables of the Adapted Scale (Free-to-play games)</b>			
<b><u>Construct</u></b>	<b><u>Statements/Items</u></b>	<b><u>Authors</u></b>	<b><u>Cronbach's Alpha</u></b>
<b>Fun</b>	I play free-to-play games because it's fun.	Jin (2014)	0.938
	I play free-to-play games because it's cool.		0.936
<b>Fantasy</b>	I play free-to-play games because they let me do things I can't do in real life.	Sherry et al. (2006)	0.931
	Free-to-play games allow me to pretend I am someone/somewhere else.		0.931
	I like to do something that I could not normally do in real life through a free-to-play game.		0.931
	I enjoy the excitement of assuming an alter ego in a free-to-play game.		0.934

<b>Social interaction</b>	My friends and I use free-to-play games as a reason to get together.	Sherry et al. (2006)	0.934
	Often, a group of friends and I will spend time playing free-to-play games.		0.933
	I play free-to-play games to relate to other people.	Souza & Freitas (2017)	0.934
<b>Diversion/Escapism</b>	I play free-to-play games when I have other things to do.	Sherry et al. (2006)	0.934
	I play free-to-play games instead of other things I should be doing.		0.934
<b>Arousal</b>	I find that playing free-to-play games raises my level of adrenaline.	Sherry et al. (2006)	0.932
	Free-to-play games keep me on the edge of my seat.		0.933
	I play free-to-play games because they stimulate my emotions.		0.931
	I play free-to-play games because they excite me.		0.932
<b>Challenge</b>	I feel proud when I master an aspect of a free-to-play game.	Sherry et al. (2006)	0.932
	I find it very rewarding to get to the next level.		0.932
	I find it very rewarding to reach the next level of a free-to-play game.	Jin (2014)	0.931
	I enjoy finding new and creative ways to work through a free-to-play game.		0.932

Table 4.2 Variables of the Adapted Scale Buying Impulsiveness

<b>Variables of the Adapted Scale (Buying impulsiveness scale)</b>		
<u>Statements/Items</u>	<u>Author</u>	<u>Cronbach's Alpha</u>
I often buy virtual goods spontaneously.	Rook & Fisher (1995)	0.933
“Just do it” describes the way I buy virtual goods.		0.935
I often buy virtual goods without thinking.		0.934
“I see it, I buy it” describes me.		0.934
“Buy now, think about it later” describes me.		0.933
Sometimes I feel like buying virtual goods on the spur-of-the-moment.		0.932

I buy virtual goods according to how I feel at the moment.		0.933
Sometimes I am a bit reckless about what I buy.		0.934

## 4.6 Sample

### 4.6.1 Define the Population

A population is defined as the completed set of elements, objects or people that share common characteristics which have been defined by the researchers in advance (Burns & Burns, 2008). The specific segment selected from the population is referred to a sample and it is a subsection or subcategory of the population. Sample can be selected through a non-probability or probability method. Probability or random samples are good practices that are positively associated with studies (Bryman & Bell, 2015). The authors suggest that respondents should be randomly selected to ensure the truthfulness of the results, however, numerous studies depend on non-probability samples. This category of sampling refers to the sample that has not been gathered randomly. Occasionally, non-probability samples are used when it is very difficult or almost impossible to obtain probability samples. In addition to this, the fact that more resources and time are needed to secure probability sampling, lead the researchers to non-probability sampling. Lastly, if the sample of the research can reflect the population exactly, then it is a representative sample (Malhotra, 2007).

The population of the created for this thesis web survey consisted of players that play free-to-play games and have purchased at least once virtual goods in these games. The category of players that the questionnaire was oriented to was stated at the cover page of the survey. To ensure that all participants were aware of these criteria, the first question asked if they purchase virtual goods in the above-stated category of games. When someone was answering with *No*, then the questionnaire was leading to the last section, which is the submission of the response. In other words, respondents that answered with *No* was not allowed to continue answering the survey.

Furthermore, the survey was not focusing on gender, therefore, people from all genders had the opportunity to answer the survey. Cornering, age three brackets were provided as options to the participants 18-25, 26-45 and 46-above. Players below the age of 18 were not targeted, because a consent form from their parents was needed and since the survey was anonymous such a form was unable to be issued from the participants. Another reason for not including players below the age of 18 is due to the fact that in their report Limelight (2018) identified that teenagers do not purchase as many virtual goods as the other categories of players. In addition, a question regarding the occupational status of the participants was included to indicate at which stage of their lives are they compared to their age.

#### 4.6.2 Sampling Frame

According to Burns and Burns (2015), a sampling frame consists of the list of all units of the population. Furthermore, the list of the sampling frame includes the names, telephone numbers and email addresses of the participants (Bryman & Bell, 2008). However, not every researcher can have access to such personal information. Moreover, depending on the research method a sampling frame may be created or not (Malhotra, 2007). For instance, the research method of the study was Web survey and the participants were not asked about their names and phone numbers since the survey was anonymous. Usually, online questionnaires do not require personal data (Bryman & Bell, 2015). Thus, regarding this thesis, no sampling frame exists.

#### 4.6.3 Sampling Technique: Snowball

As it was mentioned previously in probability sampling the sample is randomly selected and each person or unit has exactly the same chance to be selected (Bryman & Bell, 2015). The authors state that for a sample to be considered as a representative it should be randomly selected. Furthermore, the key objective of this method is to reduce the sampling errors to a minimum. On the other hand, non-probability sampling occurs when the sample of the research has not been selected applying a random selection method (Bryman & Bell, 2015). According to the authors, non-probability sampling is often not used due to its limitation, which is related to the fact that some units/people have the probability to not be selected.

Furthermore, non-probability sampling can be found in numerous forms (Burns & Burns, 2008). For instance, the key forms are the convenience, quota, purposive, judgment and snowball non-probability samples (Lewis-Beck, Bryman & Liao, 2004). However, this thesis only focused on snowball sampling. This type of sampling is also known as referral sampling and it uses initial contacts in order to ensure more people/contacts through the use of referrals (Bryman & Bell, 2015). The snowball sampling is often associated with networking because both work in the same way, through networking people meet other individuals with the same interests and exchange ideas. During referral sampling, participants are asked to forward the survey/questionnaire to their friends, family members and familiar people, in general, that may belong to the target population (Burns & Burns, 2008).

Snowball sampling can also be applied to qualitative studies, for example when having an interview or focus group the participants can be asked if they know other people that share the same interests as them. The referral/snowball sampling is considered as the easiest way for participants to be selected (Lewis-Beck, Bryman & Liao, 2004). However, some of the disadvantages of this type of sampling are that people may be biased as well as the margin of errors that may occur. Sometimes, participants may be biased when choosing to whom to forward the survey, or when they have to invite other people to participate in interviews or focus groups (Bryman & Bell, 2015). Moreover, margin errors may occur because researchers may not have the ability to reach a big sample, but a small group of individuals, then the results are considered as not representative (Burns & Burns, 2008).



#### 4.6.4 Survey Implementation

Hair, Black, Babin and Anderson (2010) claim that web self-administrated questionnaires are the most used method in marketing research. Therefore, this method was chosen in this research due to its efficiency, limited cost, time-saving and easy access (Carpenter, Moore, Alexander & Doherty, 2013). The form of the online survey was gathered through “docs.google.com” and individuals had access for almost three weeks (from April 16th, 2019 until May 6th, 2019). The survey link was posted to different Facebook pages of students of Lund University as well as send to friends that were known to play and purchase virtual goods in video games. These people were asked to forward the questionnaire to other individuals that they know. Therefore, the snowball sampling technique was implemented in this thesis. To complete the questionnaire, the participants needed an average of 1.5 to 3 minutes.

The survey was divided into five categories and every category consisted of a small introduction which included information about the section’s content. In addition to this, in the introduction of the survey respondents were told about the topic and objectives of the research as well as the characteristics of the target group. Moreover, the program and the name of the university at which the researchers’ study was mentioned. Finally, the anonymity of the respondents was guaranteed. Eventually, one hundred and seven (107) responses were collected from which sixty-five (65) were used for the analysis of the study. The reason for this is the first question which was asking if the participants purchase virtual goods in free-to-play games, those that answered with a negative answer, their response was saved, however, it was removed when the analysis was performed. All in all, forty-two (42) responses were invalid and sixty-five (65) were valid. In chapter 5 Analysis and Discussion under *Table 5.2* respondents’ descriptive statistics are accessible.

### 4.7 Validity

Ghuri and Grønhaug (2005) define validity as the indicator which indicates if the research instruments really measure what was stated and planned to be measured. It is extremely important for the results to be valid and accurate, so the conclusions and generalizability to be impeccable (Bryman & Bell, 2011). Furthermore, there are numerous ways of determining the validity of a research (Saunders, Lewis & Thornhill, 2007). To begin with, when researchers create and establish new measurements in their studies, they should ensure that their research has content/face validity (Bryman & Bell, 2011). Therefore, investigators can ask experts or people with experiences to check their survey or questionnaire face validity before introducing it. Moreover, for a research to have a content validity, the researchers need to make sure that the measure of the study reflects the concept concerned (Burns & Burns, 2008).

In order to ensure the questionnaire validity of this research, the supervisor of the thesis was kindly asked to verify the measurement scale and the appearance of the survey. Furthermore, a pretest or also called pilot test was conducted to guarantee the content validity of the research.

Before introducing the questionnaire to the public, it was sent to six people (friends of the researchers) that are known to play video games and purchase in-game content. These individuals were asked to check the sentences' structure and to ensure that the questions are clear and on the point. After receiving their feedback, minor changes were made to the survey. After all adjustments, the questionnaire launched to the public.

Another way of determining research validity is through external validity. This type of validity examines if the outcome of the research can be applied to other studies as well (Saunders, Lewis & Thornhill, 2007). In simple words, external validity examines if the findings of the study can be generalized and relevant to other population (Bryman & Bell, 2015). The authors claim that researchers find it difficult to apply the results of their study to other contexts or the same topic and results in another time frame, therefore, it is important for researchers to have representative samples. Malhotra (2007) argues that when a non-probability sampling is used in a research, this automatically reduces the generalizability of the study results. Since a non-probability sampling was used in this study, the findings cannot be generalized. In addition to this, the rapid increase of digital technologies and the fact that more and more players purchase virtual goods in video games decrease the external validity of this research; thus, the results might not be considered as valid in another time frame (Boon, Pitt & Ofek, 2015). To sum up, the research external validity is into question.

Finally, construct validity defines if the operationalization scale measures well the construct which had to be measured, it also evaluates the relationship between the variables (Ghauri & Grønhaug, 2005). As it was previously clarified, in the section Measurements and scaling procedures, it was mentioned that the measurements used in the thesis are adopted from other researchers, thus, they were well-known and established. Therefore, the construct validity of the adopted scales has already been evaluated. However, these scales have never been employed together in another study, thereafter, to examine the accuracy of the scales Pearson's correlation which is a statistical method was applied (Bryman & Bell, 2015). Pearson's correlation measures construct validity very well, and suggests that the correlation among the variables should range between 0 and 1, where 1 suggests that absolute correlation exists, however, such value leads to the reduction of discriminant validity (Malhotra, 2007). Therefore, correlation results below 0.9 are accepted. The outcomes of Pearson's correlation of the thesis are presented in *Table 5.5*.

## 4.8 Reliability

According to Bryman and Bell (2015), reliability measures the consistency of any concept. In simple words, reliability computes if the research method of the specific study produces consistent and stable results (Burns & Burns, 2008). In order to consider if a measurement is reliable, two factors can be examined. The first one is stability, which tests if a measure is stable or not over time, therefore, if the results are stable then, there are no fluctuations. This means that the results will be stable if a specific group is measured and then this is repeated again after

some time and there is little variation when compared. The most well-known way of testing stability is through the test-retest method (Bryman & Bell, 2015).

The second way in which reliability can be tested is via internal reliability. This type of reliability examines if respondents' answers can be related to their scores/answers on other indicators as well (Burns & Burns, 2008). Thus, when there is multiple item measurement and respondents are asked to answer to each question and then the answers are aggregated to an overall score, then, a possibility that the indicators cannot be related to the same thing exist and there is lack of coherence (Bryman & Bell, 2015). The authors argue that these days, the most famous test of internal reliability is Cronbach's alpha which is only used for quantitative data. With the help of Cronbach alpha, the mean of all split-half reliability coefficients that are possible is examined. The coefficient alpha may vary between 0 and 1, where 0 indicates no internal reliability and 1 high internal reliability (Burns & Burns, 2008). For the purpose of the thesis, Cronbach alpha was used to test the reliability of the responses, the results of which will be illustrated below.

#### 4.8.1 Reliability Test

As it was mentioned previously in this chapter, the measurement scale of this thesis was adopted from previous studies. Nevertheless, the researchers of these studies had already tested the reliability of the scales, however, the previous studies were tested under different circumstances, timeframes, in other geographical areas as well as were based on other sample sizes. When conducting their research Rook and Fisher (1995) did a confirmatory factor analysis on nine items and the value of the Cronbach alpha was 0.88 which is considered as highly accepted. However, one of the items was reverse coded, meaning that this statement was negatively worded (Rook & Fisher, 1995). Therefore, this item was not adopted when composing the survey questionnaire for this thesis. In addition to this, Souza and Freitas (2017) test the internal reliability of all statements, some of which were also espoused by this thesis. The outcomes of Cronbach's alpha for all constructs were more than 0.7, so this indicates homogeneity of the scales.

Furthermore, no research that combines the impulsiveness buying tendency scale with the players' intention to play scale was identified. Therefore, it seemed important for the thesis' contribution to ensure the internal consistency of all items. To do so, the IBM SPSS statistics program was used to compute the Cronbach's alpha. This is the most common statistical method which measures and ensures the internal consistency of a research, especially for multiple survey questions based on a Likert scale (Burns & Burns, 2008; Bryman & Bell, 2015). Moreover, this technique indicates the existence of similar constructs among the items and also enables for the identification of items that do not measure the same constructs, which can be later deleted (Burns & Burns, 2008). SPSS statistics is able to produce multiple tables in order to verify the reliability of different items. However, the most important tables for the interpretation of reliability are the Reliability Statistics one as well as the Item-Total Statistics table.

In addition to this, a Cronbach's alpha which has a range of 0.8 or above is considered as highly accepted. Moreover, this indicates that the homogeneity among the items is assumed, while the lowest range of acceptability is 0.7 (Burns & Burns, 2008). Therefore, in *Appendix B* the *Reliability Statistics Table* is presented and it shows the results of Cronbach's alpha, the value of which is 0.935. This shows that the 27 items which were selected for the creation of the present survey, provide a high level of internal consistency. Furthermore, the Cronbach's alpha values for all items are illustrated in *Tables 4.1* and *4.2*, which were introduced in the *Measurements and Scaling Procedures* section. All values were above 0.9 and this indicates an excellent level of internal reliability.

In order to test the relationship between the independent variables, a Pearson correlation analysis was conducted. This analysis was performed as the independent variables were all expressed in interval scales and considered as continuous (Burns & Burns, 2008). Moreover, the Pearson Correlation Table can be found in *Appendix B* and it also reveals the outcomes of the test for all six dimensions. By observing the table, it can be indicated that there are not very high correlations among the independent variables. Overall, all associations are below 0.7 which shows a moderate or weak relationship, something that was aimed by the researchers. However, the association between the two variables Arousal and Challenge was 0.75 and is considered as highly correlated. Perhaps, the reason behind this is the fact that the statements of both variables' express emotions.

The high relationship between the two dimensions problematized the researchers, therefore, the Variance Inflation Factor (VIF) test of multicollinearity was conducted. Multicollinearity often occurs when the correlation among the independent variables is considered as high, this may lead to unstable as well as unreliable results (Burns & Burns, 2008). In addition, multicollinearity does not exist when the values of VIF are below 10. The results of the VIF test that was performed are illustrated in the below *Table 4.3*, as it can be seen all results are below 10 and more specifically below 3. This indicates that multicollinearity among the dimensions does occur. In particular, previously Arousal and Challenge were defined as highly correlated, however, their VIF result does not show multicollinearity.

*Table 4.3 Collinearity Statistics*

Dimensions	VIF					
	Fun <sup>a</sup>	Fantasy <sup>a</sup>	Social Interaction <sup>a</sup>	Arousal <sup>a</sup>	Diversion/ Escapism <sup>a</sup>	Challenge <sup>a</sup>
Fun		1.091	1.162	1.157	1.151	1.146
Fantasy	2.399		2.445	2.324	2.339	2.455
Social Interaction	1.578	1.509		1.465	1.572	1.574
Arousal	2.872	2.623	2.679		2.875	2.145

Diversion/ Escapism	1.365	1.261	1.373	1.373		1.309
Challenge	2.703	1.091	2.736	2.038	2.605	

a Dependent Variable

## 4.9 Chapter Summary

This chapter consisted of the method approach that was followed for the investigation of the topic. Firstly, a deductive research approach was selected as the most appropriate for this thesis. Furthermore, this study follows an explanatory research design and only primary data collection was used for the examination of the research question and hypotheses. Therefore, the type of research chosen for this thesis was quantitative research. Moreover, a web survey was composed in order to test if players purchase virtual goods in video games on impulse. In addition to this, the survey consisted of well-established statements which were adopted from previous studies. These statements were measured through a 5-point Likert scale. The sample of the research was both female and male players that purchase additional content in free-to-play games. Also, the validity of the thesis was checked through a pretest which was sent to six people. Finally, the statements' reliability was tested by Cronbach's alpha test.

# 5 Analysis

The aim of this chapter is to present the analysis along with the results of the online survey. In order to approach the hypotheses which were based on the research question, a descriptive study will be performed. Furthermore, the relationships between the independent and dependent variables will be examined through a correlation analysis and thereafter, this relationship will be tested by the moderate variables.

## 5.1 Descriptive Study

Descriptive studies are commonly used for the determination of the population which is under examination as well as to describe its characteristics, usually by referring to a demographic and describing the research subject (Bryman & Bell, 2015). Furthermore, this type of study is related to the process of identifying patterns by gathering, organizing and summarizing information in a manner that can be presented numerically. It is thus not important for studies that follow a descriptive study to focus on the reason behind why a certain phenomenon will be examined (Burns & Burns, 2008). However, only associations among the variables can be highlighted by descriptive studies. Therefore, this type of studies is unable to draw causality or to make comparisons among the variables, but they can only produce hypotheses (Burns & Burns, 2008).

### 5.1.1 Description of the Sample

Regarding this thesis, a descriptive statistical analysis was conducted in order for the sample under-examination to be analyzed. The total sample of the survey consisted of one hundred seven (107) responses, from which 42 (39.3%) of the respondents stated that they do not purchase virtual goods in free-to-play games; thus, their responses were removed from the measurement. Due to this limitation, the representative responses which can be related to the requested task were 65. Additionally, through the frequency statistic procedure, the respondent's answers as well as their demographic characteristics were categorized in frequency tables. The below *Table 5.1* represents the two moderate variables of the research. They were used in order to investigate if gender and age are able to affect the relationship between the independent and dependent variables. Moreover, a demographic characteristic such as occupational status was also included in the survey questions, however, the responses were gathered only for observation. Thus, occupational status is not a moderate variable in this study. The table presenting occupational status can be found in *Appendix C*.

The description of the representative 65 responses will follow, however, it is important to be noted that the distribution of data in terms of gender was unequal. The female participants were represented by 28 responses or 43.1% of the sample. In opposition, 37 respondents were males (56.9%), this was expected as male players tend to play video games and buy virtual goods more often (Limelight, 2018). Furthermore, focusing on the age group, 3 clusters were created in the beginning, however, in the end, the last category was deleted because no responses were indicated. The first group consisted of people between the ages of 18 and 25 and it was represented 49.2% of the sample. The second cluster included respondents in the ages between 26 and 45, and exactly 50.8% of the respondents belonged to this category. Finally, the third group consisted of people aged 46 and above and included no correspondents; this group was therefore not part of the dataset used in the final analysis. Regarding the occupational status (*see Appendix C*), respondents had to select one of six alternatives, either they were students, full-time employees, part-time employees, unemployed or housewife/husband. The majority, 52.3% of the respondents were students, while 35.4% were full-time employees. Furthermore, 10.8% of the participants were part-time employees and only one person (1.5%) was unemployed.

Table 5.1 Age and Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-25	32	49.2	49.2	49.2
	26-45	33	50.8	50.8	100.0
	Total	65	100.0	100.0	
Valid	Female	28	43.1	43.1	43.1
	Male	37	56.9	56.9	100.0
	Total	65	100.0	100.0	

As previously mentioned, the frequency procedure is only used for observing categorical variables. Thus, the relationships between the two categorical variables, gender and age, was detected by the use of a Crosstab or Crosstabulation table (*see Appendix C*) (Burns & Burns, 2008). In this table, the association between the participants' gender and age was shown. From the total sample N=65, individuals between the age of 18 and 25, 17 were females and 15 were male. In the age category of 26 to 45, 11 participants were women, whereas the male representatives were 22.

### 5.1.2 Analysis Overview

To begin with, it was expected that the sample of the survey will be limited, however, one of the reasons behind this was that the researchers aimed to balance the age categories. Moreover,

due to time constraints and the restricted population, it was difficult for a larger sample size to be reached. Furthermore, Burns and Burns (2008) argue that based on the Central Limit Theorem a sample size consisting of 30 participants or units and above has the opportunity to approach a normal distribution. However, if the sample size included more respondents, the probability of the sample being more representative was higher. Therefore, the N=65 which was the sample size of the questionnaire can be considered as satisfying for the purpose of the current research.

Furthermore, as the above table shows, the number of male participants was higher than the number of female respondents. Limelight 2018 Report suggests that male players tend to play more video games and also to purchase in-game content in those games, in comparison female players prefer to play video games, but avoid the purchase of virtual goods in these games (Limelight, 2018). Therefore, more men responses were expected. An interesting observation was that most of the young respondents (18-25 years old) were female, however, in the second age group 26-35 a significant deviation between the two gender categories was noticed. As women belonging to this group were only 6, compared to 17 men. However, the last age bracket consisted of 5 and 7 female and male responses respectively. To conclude, age and gender were considered as moderate variables in this research due to their effect on players purchasing behavior which is an interesting phenomenon for observation.

### 5.1.3 Description of the Mean

Central tendency is one of the most interesting as well as commonly used numerical properties of a distribution. It is also known as the average and it determines what is normal, typical and representative (Burns & Burns, 2008). Researchers prefer to use other terms because of the numerous meanings that the central tendency have, and it consists of three categories: median, mode and mean. These categories measure the average, however, each one interprets it in a different way (Bryman & Bell, 2015). The most commonly used category of central tendency is the mean which is calculated as the total sum of all available scores which is then divided by the total number of all scores. Any change of a score leads to different value of the mean. The arithmetical mean works as the balance spot of a distribution (Burns & Burns, 2008).

The following *Tables 5.2* and *5.3* represent the average of the respondents' answers for the two main scales along with their standard deviation. In addition, the sample has been divided by the two moderate variables gender and age to examine if there are important differences between the age groups and gender. In regards to moderate variable age *Table 5.2* shows the variations among the mean values of the two age groups. Firstly, the young players between the age of 18 and 25, consider Fun, Challenge and Arousal as the most significant factors that influence them to play video games. The mean values of these factors are approximately 3.4, 3.6 and 3.4 respectively, and they are relatively above neutrality. Furthermore, the mean results of Social Interaction and Diversion/Escapism are slightly above the neutrality index. Whereas, the mean outcomes of Fantasy and Impulse are about 2.9 and 2.8 correspondingly. Moving to the next age cluster, it can be seen that Fun is again the most important factor for players between 26



and 45 with a mean approximately 3.5. Challenge and Arousal come second and third and have mean values 3.2 and 3.1 respectively. The other four dimensions are below the level of neutrality.

*Table 5.2 Descriptive Statistics – Age*

	Total Sample		Age 18-25		Age 26-45	
	Mean	SD	Mean	SD	Mean	SD
Fun	3.4615	.72515	3.4063	.62782	3.5152	.81476
Fantasy	2.8885	.98824	2.9219	.87399	2.8561	1.10048
Social Interaction	3.0513	.98993	3.1875	.91947	2.9192	1.05089
Arousal	3.2231	.92505	3.3984	.72362	3.0530	1.06939
Diversion/ Escapism	2.9923	.94576	3.2500	.64758	2.7424	1.11888
Challenge	3.4077	.91810	3.6172	.78798	3.2045	.99893
Impulse	2.7596	.86159	2.8164	.84361	2.7045	.88819
N	65		32		33	

Regarding gender, *Table 5.3* illustrates the different means based on female and male responses. Concerning female players answers, Fun and Challenge were indicated with the highest mean values ( $\approx 3.4$ ) compared to the other dimensions. Moreover, the means of the two dimensions Arousal and Diversion/Escapism are close to 3, thus, female players are undecided regarding the effect that these factors have on them. The other three dimensions Fantasy, Impulse and Social Interaction are below the neutrality level. In comparison, male players identified Fun and Social Interaction with the highest mean values (3.5), followed by Arousal and Challenge. Whereas, as for Fantasy, Impulse and Diversion/Escapism males were undecided if these factors influence them to continue playing video games and purchase on impulse.

*Table 5.3 Descriptive Statistics – Gender*

	Total Sample		Female		Male	
	Mean	SD	Mean	SD	Mean	SD
Fun	3.4615	.72515	3.3571	.69198	3.5405	.74887
Fantasy	2.8885	.98824	2.7500	1.06066	2.9932	.93074
Social Interaction	3.0513	.98993	2.4762	1.04006	3.4865	.69208
Arousal	3.2231	.92505	3.0714	.87098	3.3378	.95963

Diversion/ Escapism	2.9923	.94576	3.0179	.92778	2.9730	.97144
Challenge	3.4077	.91810	3.3750	1.01721	3.4324	.84912
Impulse	2.7596	.86159	2.5625	.84128	2.9088	.85779
N	65		28		33	

### 5.1.4 Analysis Overview

In *Table 5.2* the mean results based on age are presented. Firstly, it seems that Challenge, Fun and Arousal are the key motives among all factors that positively affect players between 18 and 25 years to play video games. Furthermore, Social Interaction and Diversion/Escapism were identified to have a neutral effect on young players. However, Fantasy and Impulse had the lowest mean values, therefore, the young participants of the survey stated that Fantasy is not a key factor for them. In addition, it was found that those players are undecided if they will purchase virtual goods on impulse. Moving to the second age bracket 26-45, it can be noticed that Fun, Challenge and Arousal are again the top reasons for playing video games based on the participants' answers. However, Fantasy, Social Interaction as well as Diversion/Escapism were identified to have a moderate effect on the players. Furthermore, players that belong to this age bracket do not tend to often purchase in-game content on impulse.

In addition to this, in *Table 5.3* the differences between the influential factors of female and male players were identified. Challenge and Fun are the key motives that affect female players to play video games. On the other hand, Social Interaction and Fantasy are not considered as important ones when it comes to women gamers. Moreover, the results of females regarding the Arousal and Diversion/Escapism dimensions were neutral. Similarly, male players identified Fun, Social Interaction, Arousal and Challenge as the four major motives for the increasement of their intention to play. Fantasy and Diversion/Escapism had similar mean values, which indicates that these two dimensions have a neutral effect on male players. Both female and male players are undecided if they will perform impulsive purchases of virtual goods in free-to-play games.

## 5.2 Hypotheses Testing

### 5.2.1 Correlation for H1, H2, H3, H4, H5, H6

Correlation studies are frequently used in order to determine the degree to which relationships between independent and dependent variables may occur (Bryman & Bell, 2015). This kind of relationships are mutual and can have either a positive or negative direction. In addition to this, a correlation can vary between +1 and -1, indexes which indicate a perfect positive or a perfect inverse association (Burns & Burns, 2008). However, they are not in a position to define the

exact reason why the relationship exists; therefore, correlations studies are not able to draw causalities (Burns & Burns, 2008).

Moving to the testing of the first six hypotheses, the independent variables (Fun, Fantasy, Social Interaction, Arousal, Diversion/Escapism and Challenge) will be compared with the dependent variable (Impulse). *Table 5.4* illustrates the final results of the questionnaire as well as if the hypotheses are significant or not. An important note that should be taken into consideration is that the Null hypothesis of this research is:  $H_0 =$  There are no associations between the groups. In addition, the Alternative hypothesis of the study is:  $H_1 =$  Associations between the groups exist. In order to test these hypotheses, the associated probability (Sig.) seems to be the best choice. Furthermore, the significant level is symbolized by the Greek letter  $\alpha$ . Thus, if  $\alpha > 0.05$ , then the  $H_0$  is accepted, however, if  $\alpha < 0.05$ , then  $H_0$  is rejected and  $H_1$  is accepted (Burns & Burns, 2008; Bryman & Bell, 2015).

The observation of the Total Sample column of *Table 5.4* will identify if the hypotheses 1 to 6 are accepted or rejected. To begin with,  $H_1$ : Fun will positively influence impulse purchases of virtual goods. This hypothesis is related to the Fun dimension and is confirmed since Sig = 0.036 and this indicates that  $\alpha < 0.05$ , therefore, a positive relationship between Fun and Impulse exists. However, this relationship is considered as weak because of  $r = 0.26$ . Moreover, the second hypothesis aimed to examine if Fantasy leads to impulse buying purchases in the game environment, the hypothesis was as followed,  $H_2$ : Fantasy will positively influence impulse purchases of virtual goods. The Sig result of this dimension was 0.000 which is lower than 0.05; thus,  $H_2$  is accepted. Herein, the relationship between Impulse and Fantasy can be characterized as moderate. Furthermore,  $H_3$  hypothesis stated that social interaction will positively influence impulse purchases of virtual goods. The Sig value of this factor is equal to 0.001 which is  $< 0.05$ . Consequently, this hypothesis is accepted and its association is a positive moderate linear.

Moving to the fourth hypothesis, which stated that: arousal will positively influence impulse purchases of virtual goods. This hypothesis was confirmed since Sig = 0.000 which is also below alpha's index of 0.05. Hypothesis five referred to Diversion/Escapism and examined if it will positively influence impulse purchases of virtual goods. The significant level of this hypothesis is 0.002 which indicates the acceptance of  $H_5$ . Finally, the last hypothesis  $H_6$  examined if Challenge will positively influence impulse purchases of virtual goods. The level of significance between challenge and impulse was equal to 0.000 and  $< 0.05$ , therefore,  $H_6$  was confirmed. Regarding the values of  $r$  for the  $H_4$ ,  $H_5$  and  $H_6$  all associations were identified as positive moderate linear relationships.

*Table 5.4 Correlation among main dimensions*

	Impulse	
		Total Sample
Fun	Pearson Correlation Sig. (2-tailed)	.260* .036
Fantasy	Pearson Correlation Sig. (2-tailed)	.458** .000

Social Interaction	Pearson Correlation Sig. (2-tailed)	.419** .001
Arousal	Pearson Correlation Sig. (2-tailed)	.432** .000
Diversion/Escapism	Pearson Correlation Sig. (2-tailed)	.384** .002
Challenge	Pearson Correlation Sig. (2-tailed)	.427** .000
N		65

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

### 5.2.2 Correlation for H7 and H8

In *Table 5.5* the results regarding hypotheses seven and eight are presented. The examination of hypothesis 7 will be first introduced. Based on the moderate variable age H7 stated that player's age will moderate the relationship between hedonic motives and impulse purchases of virtual goods. To start with, in the age cluster 18-25 only the Fun dimension had a significant association probability as Sig = 0.011. However, the other five dimensions were identified with not statistically significant results. Their significant levels were above 0.05, thus, Social Interaction, Challenge, Fantasy, Arousal and Diversion/Escapism did not affect the relationship between hedonic motives and impulse purchases of in-game content. On the other hand, players belonging to the second age group 26-45 identified Fantasy, Arousal, Diversion/Escapism, Social Interaction and Challenge as important factors that affect the under-examination relationship. The Sig values of these dimensions were all around 0.000. In opposition, Fun was associated as the only not important dimension for the players in this age group, as Sig = 0.424 which is way above 0.05. All in all, as it can be noticed the six dimensions influenced in a different way the hedonic motives with impulse purchases of virtual goods, thus, H7 is confirmed.

Moving to the investigation of the moderate variable gender, the female and male preferences are listed in *Table 5.5*. The hypothesis related to this moderate variable is H8: player's gender will moderate the relationship between hedonic motives and impulse purchases of virtual goods. Firstly, the analysis of the female players' choices will be presented. Fun, Fantasy, Arousal and Challenge are four hedonic dimensions with Sig values 0.643, 0.102, 0.381 and 0.524 respectively. These values are all above 0.05, therefore, these dimensions are not identified as important for female players regarding impulse purchases of virtual goods. Additionally, Social Interaction has a Sig = 0.066 which is slightly above 0.05, but cannot be considered as significant. The only significant dimension for women players is Diversion/Escapism with a Sig = 0.042, which indicates that this dimension can moderate the relationship between hedonic motive Diversion/Escapism and impulse purchases of additional content in video games. Concerning male players, for them all dimensions are significant, however, the most important are Fantasy, Arousal and Challenge with Sig values equals to 0.000. The associations of Social Interaction and Diversion/Escapism were 0.010 and 0.013 respectively. Nevertheless, Fun was associated with the highest  $\alpha = 0.037$  which is close to the greatest sig value of 0.05, however, it is considered as significant. Therefore, H8 is also confirmed.

Table 5.5 Hypotheses 7-8

		Impulse			
		Age 18-25	Age 26-45	Female	Male
Fun	Pearson Correlation Sig. (2-tailed)	.442* .011	.144 .424	.091 .643	.344* .037
Fantasy	Pearson Correlation Sig. (2-tailed)	.223 .219	.631** .000	.315 .102	.557** .000
Social Interaction	Pearson Correlation Sig. (2-tailed)	.325 .070	.488** .004	.353 .066	.420** .010
Arousal	Pearson Correlation Sig. (2-tailed)	.145 .428	.613** .000	.172 .381	.578** .000
Diversion/ Escapism	Pearson Correlation Sig. (2-tailed)	-.068 .710	.636** .000	.387* .042	.403* .013
Challenge	Pearson Correlation Sig. (2-tailed)	.055 .766	.695** .000	.126 .524	.702** .000
N		32	33	28	37

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

Table 5.6 Hypotheses Overview

<b><u>Hypotheses</u></b>	
H1: Fun will positively influence impulse purchases of virtual goods.	<b>Accepted</b>
H2: Fantasy will positively influence impulse purchases of virtual goods.	<b>Accepted</b>
H3: Social interaction will positively influence impulse purchases of virtual goods.	<b>Accepted</b>
H4: Arousal will positively influence impulse purchases of virtual goods.	<b>Accepted</b>
H5: Diversion/escapism will positively influence impulse purchases of virtual goods.	<b>Accepted</b>
H6: Challenge will positively influence impulse purchases of virtual goods.	<b>Accepted</b>

H7: Players' age will moderate the relationship between hedonic motives and impulse purchases of virtual goods.	<b>Accepted</b>
H8: Player's gender will moderate the relationship between hedonic motives and impulse purchases of virtual goods.	<b>Accepted</b>

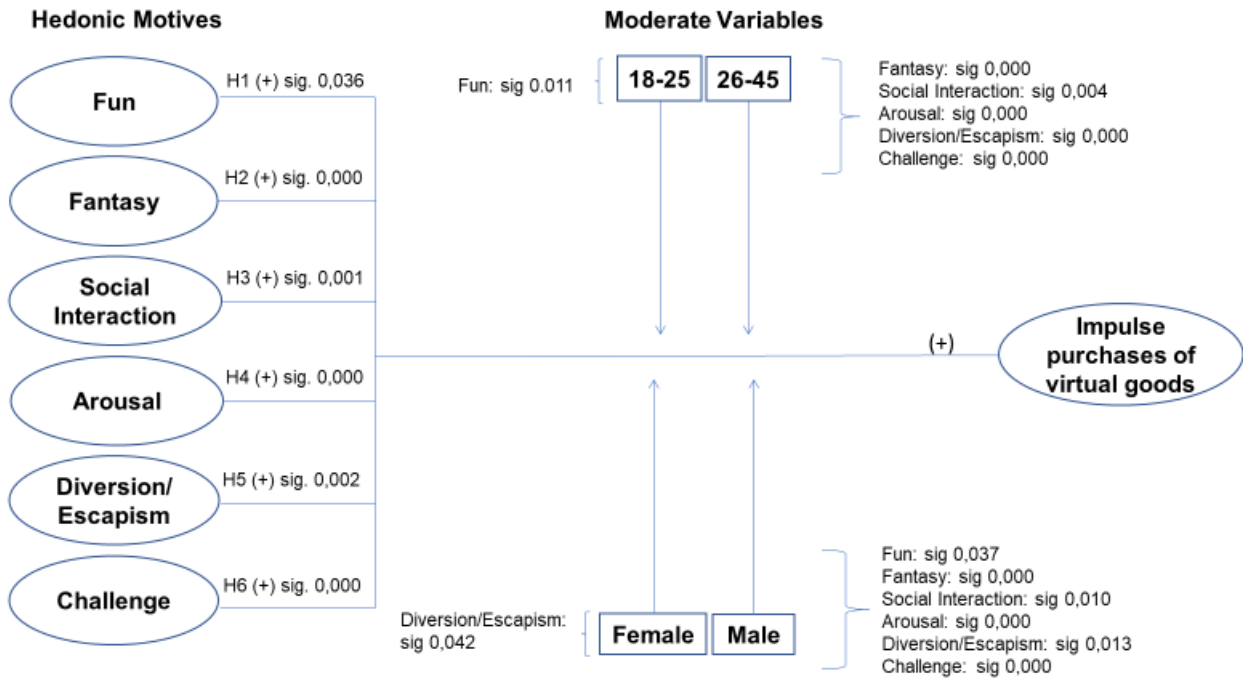


Figure 5.1 Theoretical Framework after findings

## 6 General Discussion

This chapter will provide the reader with a general discussion, therefore, the results from the survey will be discussed in depth. With the help of already established studies similar to this research, the findings of the thesis will be analyzed and compared. This chapter will be separated in two sections. The first will include the main findings of the study and the second will focus on the impact of the moderate variables on the outcomes.

### 6.1 Main Findings

As it can be identified from the analysis, the scales that were adopted from other studies showed satisfactory results for unidimensionality. The outcomes of Cronbach's alpha analysis as well as the VIF test for multicollinearity were satisfying. To begin with, the first hypothesis which referred to Fun, was accepted. However, the relationship between fun and impulse was positive but also identified as weak due to two main reasons. The first reason refers to the fact that the sample was limited and the second is associated with the number of the statements used for the examination of the fun dimension, which were only two. Previous studies have reported that fun is one of the most important factors for players to play video games (Jin, 2014; Cohen, 2014; Wei & Lu, 2014; Souza & Freitas, 2017). Fun was also found by this thesis to be one of the most significant factors for players to play free-to-play video games, therefore, this result is in line with the findings of previous studies. Furthermore, fun is also associated with impulse buying since it is one of the hedonic motives that influence consumers to purchase on impulse (Rook & Fisher, 1995; Yu & Bastin, 2010). This was expected by the researchers of this thesis, as fun is the dimension that most studies refer to when it comes to factors influencing players intention to play and pay (Souza & Freitas, 2017). In addition to this, Verplanken and Herabadi (2001) argue that consumers prefer to purchase products and services in order to receive fun and enjoyable experiences.

The second hypothesis, related to fantasy and was as previously mentioned, confirmed. Thus, the connection between the fantasy dimension and impulse buying was characterized as a positive moderate relationship. In the video game environment fantasy is a key motive that drives players to play video games (Sherry et al. 2006; Jin, 2014; Souza & Freitas, 2017). The authors claim that players enjoy video games that allow them to fantasize and to act in different ways that they cannot usually do in real life. In addition to this, fantasy allows players to build their own virtual world, where they can play imaginary roles and pretend to be someone else (Shelton, 2010). Therefore, it was not a surprise that this hypothesis was accepted, as players expect video games to offer them a fantasy world where they are free to express themselves.

Moreover, the fantasy dimension was also identified as an impulse buying hedonic shopping motivation (Baumeister, Heatherton & Tice, 1994; Asnawati & Sri, 2018). Fantasy offers the ability to consumers to express emotions such as entertainment and pleasure (Hirschman & Holbrook, 1982). To conclude, it seems that fantasy is an extremely important element in both video game environment and in impulse buying context. This dimension, therefore, influences players to purchase in-game content on impulse.

Moving to the third hypothesis which examined if social interaction will affect impulse buying purchases of virtual goods, this hypothesis was also confirmed. Prior studies indicate that social interaction is one of the main factors that drive players to play video games and to buy additional content in those games (Hamari et al. 2017; Souza & Freitas, 2017). In addition, the reason behind this is that video games allow players to play and collaborate with each other (Dalisay et al. 2015). Moreover, some video games have their own chat rooms through which players can communicate, exchange ideas and develop strategic plans for their triumph (Jin, 2014). Similarly, literature regarding impulse buying supports that social interactions with people lead consumers to hedonic impulse purchases (Yu & Bastin, 2010). Additionally, some people purchase impulsively when they are with their fellows (Cox, Cox & Anderson, 2005). The present thesis argues that social interaction is not always associated with competition and it also may exist alone in the game environment. The main advantage of social interaction is its ability to build international friendships among the players.

The fourth hypothesis which referred to arousal was accepted. This result was not expected since Souza and Freitas (2017) research identified that arousal does not influence players' intention to play, therefore, this dimension has no effect on players' intention to purchase virtual goods. In comparison to their study, this thesis identified that players prefer to play video games that offer them emotional arousal. Moreover, video games that include arousal elements, were found to increase players' blood pressure and adrenaline. Therefore, this dimension can be related to both positive and negative emotions in the game environment (Grizzard et al. 2015). Additionally, emotional arousal is associated with impulse buying and it is considered as a hedonic motive, which leads to the stimulation of pleasurable and exciting emotions (Gültekin & Özer, 2012). More specifically, in the online environment higher levels of arousal were identified since the e-stores are designed to raise a consumer's emotions (Liu, Li & Hu, 2013). Thus, the findings of the fourth hypothesis are in line with the impulse buying literature, however, it disagrees with the existing literature of video games. As a consequence, the outcome of the thesis sheds light on the current studies.

Concerning H5, which investigated if diversion/escapism has a positive effect on players' intention to purchase virtual goods, this hypothesis was confirmed. For the present study two words were used to express players' escapism from reality and problems, these two terms were diversion and escapism. These words are synonyms and refer to the same definition, diversion is a common term in the video game context, however, escapism is related to impulse buying (Sherry et al. 2006; To & Sung, 2014). Moreover, Yu and Bastin (2010) support that escapism is also known as diversion, which belongs to the category of hedonic motives. In addition, evidence suggests that consumers tend to purchase on impulse in order to escape from their



daily routines (Parsons, 2002). In the context of video game, players enjoy video games that offer them the ability to relax, escape from reality and allow them to forget their problems. Because of this, players claim that they often play video games when they have others things to do (Sherry et al. 2006). To sum up, the acceptance of this hypothesis is in agreement with Souza and Freitas (2017) findings since they also confirmed that diversion has an impact on players intention to play and pay for virtual goods.

Regarding the sixth hypothesis, challenge was investigated as a factor that leads players to impulse purchases. Surprisingly, this hypothesis was also accepted, something that it was not expected because challenge does not belong to the category of hedonic motive. However, due to the fact that challenge has been proven to influence players to play as well as pay for in-game content, it was included as a factor in the research (Souza & Freitas, 2017). Moreover, researchers support that players' skills depend on the challenges that they face with in video games. Therefore, when a games' learning curve or challenges are too difficult for a player, they are more likely to pay in order to bypass them entirely (Hung, Sun & Yu, 2015; Hamari et al. 2017). This can create a cycle in which the player will always select the easy way out every time the game becomes too challenging simply because they do not have the skills. In the online environment, challenge can be identified as difficulties regarding website design and the availability of products. In addition, when consumers experience such difficulties, they become frustrated and anxious, thus, their urge to buy on impulse is decreases (Guo & Poole, 2009). Concerning the result of H6, challenge was proved to affect players' impulse buying decisions. Hence, the authors of this thesis recommend that challenge can be included in the list of hedonic motives.

## 6.2 Results based on Moderate Variables

Moving to the examination of the moderate variables age and gender, a reference will be made to hypotheses seven and eight. To begin with, H7 examined if age had a moderate effect on the connection of hedonic motives and impulse purchases of in-game content. The only factor that was identified to influence young players between 18 and 25 years old was fun. A research conducted by Souza and Freitas (2017) found that fun is the key factor that influence players to play and pay for virtual goods. However, the authors support that other dimensions such as social interaction, fantasy, challenge and diversion were proven to affect players' intention to play and pay. Similarly, Dey and Srivastana's (2017) study confirmed that fun, escapism and social interaction lead youngsters to impulse buying purchases. To some extent these results are opposed to the thesis findings and this can be explained by the small sample size. Nevertheless, young consumers tend to search for fun experiences which are offered for free (Dey & Srivastana, 2017). Therefore, fun was expected to be significant as free-to-play games are free of charge and provide entertainment and fun.

In regards to the players that belong to the age group 26-45, all dimensions except fun were accepted. This was not foreseen because these results are in a disagreement with the findings

of young players. In addition to this, Souza and Freitas (2017) argue that diversion/escapism was identified to influence only older players as compared to young ones. Furthermore, Sherry et al. (2006) ranked the dimensions based on their level of significance, thus, the first most important dimension for players is challenge, the second diversion, followed by arousal, fantasy and finally social interaction. These results are somehow in line with the thesis findings, the only difference is that fun was not examined by Sherry et al.

Finally, the other moderate variable gender was investigated by hypothesis eight. The outcomes showed that male players are affected by all six dimensions when it comes to impulse purchases of virtual goods. These findings were expected to a certain degree since a prior study proved that social interaction, diversion/escapism, challenge, fun and fantasy are important attributes for the players, however, arousal was not identified as significant (Souza & Freitas, 2017). Furthermore, research conducted by Sherry et al (2006) identified that social interaction is considered by male players as one of the key motives that drives them to purchase virtual goods, something that was not important for female players. This statement is in agreement with the results of the current study as female respondents recognized only diversion/escapism as the only factor that influenced them. Moreover, it was expected that women would identify arousal as the most important factor for impulse purchase of virtual goods because research found that females buy on impulse to satisfy their emotions (Dittmar, Beattie & Friese, 1995). However, this dimension was rejected by female players. In regards to diversion/escapism, it is assumed that this factor was accepted because females usually have intensive schedules during their daily routines and they may find the opportunity to escape from reality by playing video games.

## 7 Conclusion

In conclusion, this thesis had one aim which was the examination of players' impulse behavior regarding the purchases of virtual goods. In order to reach this aim, the study attempted to investigate certain hedonic motives which were proved to have an effect on consumers' impulse buying decisions. Although challenge is not included in the list of hedonic factors, it was embodied in this research as it was found to affect players' intention to pay for additional content in video games. The objective of the study however, was to prove that these motives affect players to buy in-game content on impulse. To reach these objectives, hypotheses were conducted to test if the six collected hedonic motives influence players to purchase virtual goods impulsively. Furthermore, if age and gender moderate the relationship between these motives and players' buying behavior was further examined.

The findings of the thesis showed positive associations between hedonic motives and players' intention to purchase virtual goods on impulse. By analyzing these results, someone may say that the aim as well as the purpose of the thesis were accomplished. Furthermore, it was supported that all six dimensions have a positive effect on consumers impulse purchases of additional content. Moreover, the two demographic factors age and gender were found to moderate the relationship between the hedonic motives and impulse purchases of virtual goods. In addition to this, the theoretical framework demonstrated that all six identified hedonic motives affect the players to play video games but also to purchase impulsively virtual goods. To continue with, the challenge dimension was recognized as a hedonic motive by the authors as the respondents stated that this factor has a positive influence on them. Therefore, it is suggested that the challenge factor can be included in the list of hedonic motives.

Finally, by examining and connecting the three literature streams, impulse buying, hedonic motives and gaming, novel literature that combines them is offered. In addition, the theoretical as well as the managerial implications will be presented below as they can contribute to both academia and video game companies. It is thus suggested that the video game companies' managers may adopt and implement the findings of this study when creating new free-to-play games in order to increase their revenues by selling virtual goods. In regards to academia, the gaming phenomenon is increasing its popularity, hence, it is suggested that new studies are conducted to examine it. Moreover, the limitations that were identified regarding this research will be presented in the next paragraphs. In order to be overcome these limitations, further research is suggested. Therefore, researchers can take advantage of this and conduct new studies based on these limitations.

## 7.1 Theoretical and Managerial Implications

### 7.1.1 Theoretical Implications

This thesis attempts to contribute to the current literature of impulse buying along with the existing studies about the video game industry which are scarce. By investigating the impulse buying phenomenon through the video game industry, a novel perspective from which impulse buying can be perceived is emerging. The main theoretical contributions of this thesis are four. First and foremost, this research expands the knowledge of the hedonic factors that influence consumers to purchase on impulse through the examination of the video game industry. To the best of the researchers' knowledge, this topic has not been investigated previously. The contribution of this study is succeeded by the exploration of the impulse buying phenomenon through the category of free-to-play games. Regarding the results of this thesis, it seems that hedonic motives indeed affect players to buy on impulse. Furthermore, it was found that impulse purchases differ depending on the age and gender of the players. This was also supported by prior studies of impulse buying (Dittmar, Beattie & Friese, 1995; Dey & Srivastana, 2017). Therefore, the findings of the thesis can be considered as a contribution to the existing literature of impulse buying.

Secondly, although challenge is not considered as a hedonic motive and it was not identified in the traditional literature regarding impulse buying, this factor was adopted for the purpose of this research and it was tested as a hedonic motive. The reason behind this decision is that in the online as well as video game environment, challenge was identified as a key factor that leads consumers to purchases (Wu, Chen & Chiu, 2016; Souza & Freitas, 2017). Further, challenge was identified by the research to influence players to purchase in-game content on impulse. Therefore, it is recommended that challenge can be included as a hedonic motive in the literature.

Moreover, the third and fourth theoretical contributions can be combined together since they are both related to the theoretical framework. To begin with, three literature streams, traditional and online impulse buying, hedonic motives as well as gaming were joined together in order for the theoretical framework to be created. Furthermore, the hedonic motives which are the core elements of this research were adopted from previous studies, however, they were adapted for the purpose of this thesis. Thus, the theoretical framework can be considered as a theoretical contribution by itself. Concerning the fourth contribution, prior literature was analyzed in order to be decided which of the hedonic motives can be applied in both impulse buying and video games context. In addition, not all factors were selected since some of them were unable to coexist. Therefore, six motives were identified as the most appropriate ones for the research purpose. The uniqueness of the theoretical framework is based on the fact that all six elements were carefully chosen to present a coherent theoretical framework which has not previously been tested in the video game environment.

### 7.1.2 Managerial Implications

Regarding the managerial implications that this thesis contributes to, it is important to be mentioned that these are only suggestions for the game companies which they can take into consideration if they wish to. Therefore, the first managerial implication refers to the six hedonic dimensions which were identified to influence players to purchase on impulse. It is thus suggested that game developers may take into consideration these factors, which were also proved to increase players' intention to play, and implement them when creating new video games. Moreover, the findings indicated that these factors lead to impulsive purchases and as stated previously approximately 90% of all purchases are made on impulse (Hausman, 2000). Thus, the game companies can increase their revenues by offering free of charge games which include the six dimensions and stimulate players to purchase virtual goods. To sum up, game designers may encourage players to spend more money on in-game content by implementing these hedonic motives.

Furthermore, as it was stated previously all eight hypotheses were accepted, however, different conclusions can be drawn from these findings. For instance, female players consider diversion/escapism as the most important aspect that a game should include in order to encourage them to purchase virtual goods on impulse. On the other hand, male players identified all six factors as significant. Therefore, depending on the target gender, game developers should consider different dimensions. In addition, young players up to the age of 25 stated that fun is the major factor that leads them to impulsively buy additional content. In opposition, older players between the age of 26 and 45 specified that all factors except fun influence them to perform impulse purchases in video games. Thus, different age groups preferences should also be taken into consideration by the game companies and more specifically by the game designers when producing new free-to-play games.

## 7.2 Limitations

When conducting this thesis, numerous efforts were made in order for the valid sample to be balanced. Moreover, the reliable measures and the statistical methods were identified to be appropriate for the testing of the hypotheses, which were developed for the current purpose of this research. However, during this process, some major limitations were recognized. In the first place, this thesis only focused on players who purchase virtual goods, therefore, the profiles of the players that do not buy additional content in video games were not studied. Thus, in order for the population to be reached, a snowball technique was used to gather responses. The authors of this thesis were aware of the fact that this non-probability sampling process has certain limitations. One of the key limitations of the snowball technique is that this method does not enable the generalization of the findings, but the outcomes can be only applied to the specific population. Therefore, the results cannot be associated with other categories of consumers except for the players who play video games and buy in-game content. Besides this

limitation, the non-probability sampling process was selected due to the fact that it offers easy accessibility to the target population

Due to the limited available time as well as the budget constraints, limitations regarding the sample size of the thesis were identified. Concerning the time factor, the web survey, which was created for the purpose of this research, was available for responses only for three weeks. Having in mind the specific target that it was attempted to be reached, this period seems very short. However, if the time period for gathering responses was larger, then the possibility of collecting a greater sample size would be higher. This would, in turn, allow for the selection of more representative results in the dataset. Moving to the next limitation, which was about the limited budget, it is believed that financial support could assist for a better research process to be chosen. For instance, a probability sampling process is associated with money spending as it requires a higher budget for data to be collected. Therefore, if the researchers had selected this process, the study would have had the probability to gather larger randomly selected sample size as well as more representative responses. Perhaps, if more women were included then the gender would also be equally distributed and balanced as it is in the age variable.

### 7.3 Further Research

Based on the findings of this thesis, suggestions for further research are provided. First of all, concerning the selected method of this thesis, the identified limitations can also be overcome by the proposed further research. Therefore, it is suggested that replication of this study can be conducted in order for the sample size problem to be solved. Thus, larger sample size can be collected and this will lead to the generalization of the findings. Then, these findings can be applied to a broader category of consumers and an association between players' and consumer's behavior can be achieved. This association is the ideal result for research since video game players can be considered as a special category of consumers who have particular characteristics and backgrounds. Moreover, as it was supported by this research, players' buying decisions do not differ in a great extent with consumers' everyday decisions, however, a general conclusion cannot be drawn. Further research can also be conducted in order to study the cause and effect of players' impulse purchases of virtual goods because the current study has only identified the existence of a relationship between hedonic motives and players' impulse buying decisions.

In addition, the authors of this thesis recommend that a replicable study which focuses only on a specific free-to-play game can be conducted. As it is supported by this research, free-to-play video games are increasing popularity and game companies adopt the freemium business model in their operations (Hamari, Hanner & Koivisto, 2017). However, the authors suggest that companies find it difficult to attract players and at the same time to increase their revenues through free of charge video games. Thus, this research can be reproduced by other researchers who may choose to collaborate with a game company and to redo the study by focusing on a specific free of charge video game. This is possible to lead to a different conclusion as opposed to this thesis and shed light on players' buying behavior.

In regards to this thesis, the research field in which it was conducted is still limited. Moreover, the existing literature that can support the combination of the impulse buying phenomenon and the industry of video games is scarce, thus, further research can be suggested. For the thesis' purpose, a theoretical framework was designed and presented which consisted of six hedonic motives that were identified to have an impact on players' impulse buying decisions. Therefore, it is recommended the adoption of this framework in future studies related to the topic. For instance, the functionality of this framework can be tested in a research based on a specific video game. In addition, further research examining its trustfulness can be conducted in order to be later established as a model. When it is established, it can be followed and adopted by other researchers as well.

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# Appendix A

5/25/2019

Impulse Buying Purchases of Virtual Goods

## Impulse Buying Purchases of Virtual Goods

Hello everyone! My colleague and I created this survey for our Master Thesis. We study International Marketing and Brand Management at Lund University. The aim of the survey is to examine if players that play free-to-play games and purchase virtual goods in them do it on impulse. We are only focusing on players do not only play free-to-play games but also buy in game content in those games. We are kindly asking you for your participation. Thank you in advance!

\* Required

### Background

General background information

1. **Gender \***

Mark only one oval.

- Female  
 Male  
 Other

2. **What age bracket do you fall into? \***

Mark only one oval.

- 18-25  
 26-45  
 46 and above

3. **What is your occupational status? \***

Mark only one oval.

- Unemployed  
 Student  
 Part-time  
 Full-time  
 Housewife/househusband

4. **Do you purchase virtual goods in free-to-play games? \***

Mark only one oval.

- Yes  
 No    *Stop filling out this form.*

### Hedonic Motives and the Intention to Play

Rate the following statements based on your level of agreement or disagreement, where 1-Strongly Disagree, 2-Disagree, 3-Neutral/Undecided, 4-Agree, 5-Strongly Agree.

5. **I play free-to-play games because it's fun. \***

Mark only one oval.

1    2    3    4    5

---

Strongly Disagree                  Strongly Agree

6. **I play free-to-play games because it's cool. \***

Mark only one oval.

1    2    3    4    5

---

Strongly Disagree                  Strongly Agree

7. **I play free-to-play games because they let me do things I can't do in real life. \***

Mark only one oval.

1    2    3    4    5

---

Strongly Disagree                  Strongly Agree

8. **Free-to-play games allow me to pretend I am someone/somewhere else. \***

Mark only one oval.

1    2    3    4    5

---

Strongly Disagree                  Strongly Agree

9. **I like to do something that I could not normally do in real life through an free-to-play game. \***

Mark only one oval.

1    2    3    4    5

---

Strongly Disagree                  Strongly Agree

10. **I enjoy the excitement of assuming an alter ego in an free-to-play game. \***

Mark only one oval.

1    2    3    4    5

---

Strongly Disagree                  Strongly Agree

11. **My friends and I use free-to-play games as a reason to get together. \***

Mark only one oval.

1    2    3    4    5

---

Strongly Disagree                  Strongly Agree

12. **Often, a group of friends and I will spend time playing free-to-play games. \***

*Mark only one oval.*

1	2	3	4	5		
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

13. **I play free-to-play games to relate to other people. \***

*Mark only one oval.*

1	2	3	4	5		
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

14. **I find that playing free-to-play games raises my level of adrenaline. \***

*Mark only one oval.*

1	2	3	4	5		
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

15. **Free-to-play games keep me on the edge of my seat. \***

*Mark only one oval.*

1	2	3	4	5		
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

16. **I play free-to-play games because they stimulate my emotions. \***

*Mark only one oval.*

1	2	3	4	5		
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

17. **I play free-to-play games because they excite me. \***

*Mark only one oval.*

1	2	3	4	5		
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

18. **I play free-to-play games when I have other things to do. \***

*Mark only one oval.*

1	2	3	4	5		
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

**19. I play free-to-play games instead of other things I should be doing. \****Mark only one oval.*

1	2	3	4	5		
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

**20. I feel proud when I master an aspect of a free-to-play game. \****Mark only one oval.*

1	2	3	4	5		
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

**21. I find it very rewarding to get to the next level. \****Mark only one oval.*

1	2	3	4	5		
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

**22. I find it very rewarding to reach the next level of a free-to-play game. \****Mark only one oval.*

1	2	3	4	5		
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

**23. I enjoy finding new and creative ways to work through a free-to-play game. \****Mark only one oval.*

1	2	3	4	5		
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

**Buying Impulsiveness Scale**

Rate the following statements based on your level of agreement or disagreement, where 1-Strongly Disagree, 2-Disagree, 3-Neutral/Undecided, 4-Agree, 5-Strongly Agree.

**24. I often buy virtual goods spontaneously. \****Mark only one oval.*

1	2	3	4	5		
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

25. **"Just do it" describes the way I buy virtual goods. \***

*Mark only one oval.*

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

26. **I often buy virtual goods without thinking. \***

*Mark only one oval.*

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

27. **"I see it, I buy it" describes me. \***

*Mark only one oval.*

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

28. **"Buy now, think about it later" describes me. \***

*Mark only one oval.*

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

29. **Sometimes I feel like virtual goods on the spur-of-the-moment. \***

*Mark only one oval.*

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

30. **I buy virtual goods according to how I feel at the moment. \***

*Mark only one oval.*

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

31. **Sometimes I am a bit reckless about what I buy. \***

*Mark only one oval.*

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

# Appendix B

**Reliability Statistics**

Cronbach's Alpha	N of Items
.935	27

Dimensions	Pearson Correlation					
	Fun	Fantasy	Social Interaction	Arousal	Diversion/ Escapism	Challenge
Fun	1	.348**	.166	.223	.102	.285*
Fantasy	.348**	1	.528**	.686**	.478**	.675**
Social Interaction	.166	.528**	1	.573**	.226	.490**
Arousal	.223	.686**	.573**	1	.355**	.750**
Diversion/ Escapism	.102	.478**	.226	.355**	1	.454**
Challenge	.285*	.675**	.490**	.750**	.454**	1

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).



# Appendix C

**Occupational Status**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Full-time	23	35.4	35.4	35.4
	Part-time	7	10.8	10.8	46.2
	Student	34	52.3	52.3	98.5
	Unemployed	1	1.5	1.5	100.0
	Total	65	100.0	100.0	

**Age \* Gender Crosstabulation**

Count

		Gender		Total
		Female	Male	
Age	18-25	17	15	32
	26-45	11	22	33
Total		28	37	65