Gamification -
The influence of gamification on the consumer purchase intention

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Abstract

Gamification is the new strategy that is applied in different areas from healthcare to the education, it is gaining a lot of popularity. Gamification is applied also in the online retailing, for trying to influence the consumer behavior. In this research paper Steam is going to be taken as a case study, since the platform is gamified. The aim of the study is to understand how gamification can influence the consumer behavior in the online retailing. As a main theoretical framework, the Fogg behavioral model. The main variables of the model are motivation, ability and trigger. In specific how the gamification can prompt the human motivation. In order to answer to the research question qualitative and quantitative research has been conducted. The qualitative research was conducted by interviewing users of the platform. While the quantitative research was conducted using a survey. The interviews and the regression model showed that extrinsic and intrinsic motivation play an important role in influencing the purchase intention of the users. According to our findings gamification influence the purchase intention by prompting the motivation of the users and at the same time also ability does influence positively the purchase intention.

Key words: Gamification, Purchase Intention, Intrinsic Motivation, Extrinsic Motivation, Ability.
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1. Introduction

Imagine it is 1960 and you need to buy a dining table with four chairs. You hook a trailer to your car, your wife packs the kids in the back seat, you drive to a large showroom of randomly placed furniture, start looking, and then the kids have a fight. You manage to pick something, but then your wife gets angry at you for yelling at the kids, so they all sulk off to the car while you wrestle the table (and the chairs) to the car. Then it rains…

Imagine it is 1980 and you need to buy a dining table and four chairs. You go to IKEA. The kids are happy in the playroom, everyone gets to eat meatballs, and the “flat-packed” furniture fits in the car. Who cares if it rains!

Ingvar Kamprad revolutionized the retail experience for physical brick and mortar stores. He transformed shopping into an event for the family. Today we are experiencing the online retail revolution. Consumers are evolving and rejecting traditional retail experiences (although Ingvar is not suffering), as retailers vie for customers unbounded by time and place. The service economy has emerged and customers are co-creating with retailers (Vargo and Lusch, 2004). In this myriad of retail opportunities, some fascinating evolutions, or perhaps revolutions are taking place.

Steam is a major digital distribution platform, founded in 2003. It mainly serves as an intermediary between game developers and players, making the process of selling and buying games easier for both sides. Even though the platform also sells programs and music, it is known as a game distributor. The main source of income for the platform is the commission it charges for every purchase made, both on the games sold and on the items sold via the community market (Chiang, 2011). In short, with Steam users can purchase, sell, install, update, and manage their computer games. Steam created a remarkable experience of purchasing virtual services and goods. While Steam positions itself as a digital games distributor, in fact, there is much more than that in the services.

The Steam platform digitally distributes games and provides social networking and multiplayer gaming services. Compared to the other digital distributors, like Battle.net, Origin or GOG, Steam possesses several community-oriented advantages. It has a common community market, where people can sell them in-game items in exchange for money to their steam wallet (Arora, 2016). People can also make posts to their feed, like social networks like Facebook, and see comments and
posts from their friends. They can form groups and forums for players by players. In the MODS section, they enter a community workshop where they develop the games. Through all these services they earn badges, build reputations, compete, and earn money. Around 37% of all games purchased are never played (Orland, 2014), suggesting that these games are bought for the gamified rewards, like cards. So, a platform, originally designed to facilitate the process of purchasing games, became a place people enjoy using (Tillman, 2016). Steam turned their retail distribution service experience into a game!

Gamification is gaining popularity in many areas like healthcare, education, and as with this example, retailing. Gamification is the process of adding game mechanics to processes (like retail), programs, and platforms that do not traditionally use these concepts, with the goal to shape behavior (Swan, 2012; Insley and Nunan, 2014). Yet, despite its growing usage, especially in online retail platforms, Zuckerman, and Gal-Oz, (2014) argue that there are very few studies on gamification considering behavior in the context of consumption. The few studies that have been published are new, and they are based mainly on experiments.

The purpose of this study is to understand and identify the impact of gamification in digital retailing and specifically, how the game mechanics influence consumer behavior. This paper uses the Fogg Behavior Model (Fogg, 2009) as the main theoretical framework, through which we will understand how gamification enhances customer retention and induces the consumers to prolong usage of the product. As the founder of Stanford's Persuasive Technology Lab, Fogg’s focus is on what causes behavioral change and habituation in a digital environment, including the automation of behavioral change (Fogg, 2009). As such, it provides a structure to investigate retail gamification on a digital platform. We address the following research question:

**How does gamification influence consumer purchase behavior on a digital retailing platform?**

Specifically, we would like to focus on the motivation that lead the consumer to a specific behavior.

### 1.2 Contribution

Given the lack of research in this area, our contribution will be to add to the literature on gamification’s influence on purchase intention towards online retail platforms. Based on the Fogg model as a theoretical starting point, we are going to add here that gamification can intrinsically and extrinsically motivate online consumers. We will also consider other variables that will be
considered as control variables. We employ both qualitative and quantitative research methodology. From the practical perspectives, we think that this paper can be read and considered when a company wants to implement gamification in its strategy.
2. Theoretical background

In this part, we will present the theory behind our research. Firstly, we present different definitions of gamification. After that, the MDA framework (Mechanics, Dynamics, Aesthetics) is used to understand gamification. Then, the Fogg model extends this understanding to how gamification affects behavior.

2.1 Gamification

There is no standardized definition of gamification. The authors of research papers provide their own definition of gamification based on the context, or refer to the other papers. Deterding, Dixon, Khaled, and Nacke (2011) state that gamification is the use of game elements outside of its original environment and they argue that gamification can improve the user experience and user engagement in different services and applications. In line with Deterding et al. (2011), Insley and Nunan, (2014) and Swan who define gamification as “the process of adding game mechanics to processes, programs, and platforms that wouldn’t traditionally use such concepts”, and they add that “gamification is a new way to shape behavior” (2012, p. 13). In this perspective Blohm and Leimeister suggest that, “gamification attempts to influence user behavior by activating individual motives via game-design elements” (2013, p. 276).

Ortiz de Guinea and Marcos state that “gamification may break up existing habits, update them with new behaviours and support the stabilization of new behaviours by continuously setting appropriate stimuli”, but they add that the use of game mechanics “provides the user with positive emotions” (2009, pp. 438–441). Gamification uses game thinking and playful design as a motivational tool to engage users (De Marcos, Dominguez, Saenz de Navarrete, and Pages, 2014). The use of gamification promotes user loyalty and influences the consumer to make incremental choices in favour of the company or services, when there is not a lot of differentiation between them and things are mostly equal (Zichermann and Cunningham, 2011). Gamification brings an added value to the services (Huotari and Hamari, 2012) and provides the user with a fun, pleasurable, challenging, and suspenseful experience (Huotari and Hamari, 2012). The MDA framework (mechanics, dynamics, and aesthetics) helps to explain how gamification can do that and how works.
2.2 Mechanics, Dynamics, and Aesthetics

The MDA framework is a tool used for analysing and explaining game design (Cunha Leite, Bastos Costa, Meijon Morêda Neto, Araújo Durão, 2016; Hunicke et al., 2004). It divides the game system into three main components that are mechanics, dynamics, and aesthetics.

According to Dicheva et al., (2015) mechanics define the way the gamification system converts specific inputs into outputs. In fact, Hunicke et al. (2004) suggests that these outputs are the elements of the game. These tools include things like points, badges, virtual items, levels, leaderboards, cards, ranking (Zimmerlig et al., 2016). The game mechanics is how the user is rewarded, it is the feedback that the system provides to the user (Deterding, 2012).

According to Kuo and Chuang (2016) the basic elements of the game are a collection of all the relevant virtual information that may change when the players play. All these game elements are used as a reward for a favourable predefined behavior (Hamari, 2013), and it is the predefined behavior that is called game dynamics. Zimmerlig et al. (2016) suggest that dynamics drives the behavior of the user and specifically how the user and the game mechanics interact during the game. Dynamics set the rules and challenges that the user must respect and overcome to achieve the game elements (Xu, Buhalis and Weber, 2017). The game dynamics connects the player with the system. But how do they do it? Well researchers agree that the game mechanics are the feedback that the user receive. For example, points, badges, and cards are realizable through a certain tracking activity (Gears and Braun, 2013). They are achievable and the system has specific rules for rewarding the users. The users are rewarded or receive feedback for example because they won a challenge, they achieved a goal that the system gave to them, that can be collaborating with someone of the network or completing successfully a task (Miller, Cafazzo and Seto, 2014). Every time the user receives a badge, a card, a point, they are going to be published by the system and are going to be placed in ranking, levels or leaderboards.

Leaderboards, levels, ranking systems are visible to all the group of people who are part of the platform. The ranking system as levels put points and badges into a social context, so the users can compare themselves with the social network (Blohm and Leimeister, 2013; Cardador, Northcraft and Whicker, 2017). At the same time when they receive such rewards they can also acquire a certain status or if the system allows it, they can also receive virtual items that they can use in the platform. Game dynamics are also the tasks that the system provides to the user. The nature of the tasks can vary according to the context. The game dynamics is the experience and Blohm and
Leimeister (2013) suggest that game dynamics is the experience of collaboration, of exploration, of competition, challenge, development, organization, collection, and the freedom of making choices.

According to Suh and Wagner (2017) all these mechanics and dynamics show people their achievement and allow them to experience a sense of fun and satisfaction. Each time that the user wins a challenge or progresses in levels or cooperates with someone he is not only winning a reward but he also feels a sense of accomplishments or of self-efficacy, of satisfaction and of autonomy or belonging in a group (Kuo and Chuang, 2016). Ralph and Monu (2015) argue that gamification can support and fulfil the basic need of autonomy, competence, and relatedness (Kuo and Chuang, 2016). Together the fulfilment of these needs produce aesthetics. According to Hunicke et al. (2004) game mechanics and game dynamism produce emotions. Understanding how gamification works is fundamental for knowing which are the possible motivations that shape the behavior of the user.

2.3 Fogg behavior Model

The Fogg model was developed for persuasive technologies, but Gopinath Bharathi et al. (2016) argue that the model is applicable also in the study of gamification. The model is quite new since its existence is of 2009 and it has been applied mainly in healthcare (Militello, Melnyk, Hekler, Small, and Jacobson, 2016; Lee, Koopmeiners, Rhee, Raveis, and Ahluwalia, 2014). There is not a lot of literature about the model itself, but this is quite understandable due to the novelty of the phenomena.

![Figure 1 (Revolvy, 2017)](image)

The basic premise is that different levels of motivation and ability will determine whether triggers for behavior change will succeed. For example, if ability to perform the behavior is low, then motivation must be correspondingly high, and vice versa. In the figure 1, there is a graphic representation of the model.
Fogg suggest that the behavior is the outcome of three main elements motivation, ability, and trigger. Since in our case we do not speak of behavior that is something observable, instead is purchasing intention.

\[
\text{Purchase intention} = \text{m} \times \text{a} \times \text{t}
\]

B= behavior (Purchase intention)
M= motivation
A= ability
T= trigger

Moreover, he adds that for a person to perform a target behavior, the person must be sufficiently motivated, can perform, and be triggered to perform the behavior (Fogg, 2009; Gopinath Bharathi et al., 2016).

2.4 Trigger

One main innovation in the model is the trigger. The purpose of the trigger is to spur a person to execute an action (Cheek, Piercy, and Grainger, 2015). According to the model, without an appropriate trigger, the behavior cannot occur even if both motivation and ability are high enough. Fogg (2009) describes the trigger as a signal, which in the mind of an individual provokes the idea of performing the behavior. The occurrence of the trigger is expected to be adequately timed now when the other two factors (ability and motivation) are sufficiently present. Fogg categorized them into three types sparks, facilitators, and signals. According to Fogg (2009) and other researchers (Cheek, Piercy, and Grainger, 2015) sparks represent energizers providing individuals, who are low in motivation but high in ability. Facilitators increase the ability of individuals high in motivation but low in ability, to make the behavior easier, thus more likely to happen (Fogg, 2009; Cheek, Piercy, and Grainger, 2015). For example, people who have a low financial ability can buy goods during the sales (the trigger). Signals are seen simply as reminders for a person to commit an action without changes in the environment.

The triggers are in the environment and they have the function of stimulating the behavior. In the specific case of gamification, the triggers are the game design elements. The game elements or game mechanics are the points, achievements, cards, levels, badges, virtual goods, contests, missions (Maican, Lixandroiu and Constantin, 2016). These triggers are used to promote the behavior of the user, with the purpose of prompting the motivation of the user. Morford et al.
(2014), in fact argues that the game elements utilized in the gamification are effective when there is the need of maintaining a special behavior. Along with Morford et al. (2014) also Hamari and Koivisto (2014) suggest that the game elements that Fogg calls triggers, are present in the environment can motivate and engage the users.

2.5 Motivation

Motivation is the desire of the person to act in a certain way (Stieglitz et al., 2016) and according to Cerasoli et al. (2014) it is a fundamental component of any credible model in human behavior. Fogg (2009) identifies three types of the motivation based on the psychological feedback that an individual receives: immediate sensation, an anticipation of an outcome, and social cohesion. The immediate sensation refers to the pleasure and pain that a person feels, while anticipation of an outcome based on the hope and fear, at the same time social cohesion stands for social acceptance and social rejection (Fogg, 2009; Cheek, Piercy, and Grainger, 2015). Fogg bases the motivation components of his model primarily on outcomes, when a specific need is satisfied. Arguably, this is a superficial approach to motivation. Given the importance of motivation in changing consumer behavior we should go deeper into developing the motivation construct.

Motivation is one of the main components in consumer decision making. The research of Ryan and Deci (2000) showed that properly enhancing motivation also enhances performance increase in terms of quality and quantity. Researchers focused in the study of gamification in fact suggest that it is important to differentiate between extrinsic and intrinsic motivation. The literature has different position about which is the most effective and powerful. Malhotra, Galletta, and Kirsch (2008) argue that the behavior is a result of both intrinsic motivation and extrinsic motivation, but several researchers argue that the effectiveness of these two different types of motivation can vary according to the context, task, and people (Kuo and Chuang, 2016).

2.5.1 Extrinsic Motivation

Law with other researchers (e.g. Ryan and Deci, 2000; Maican, Lixandroiu and Constantin, 2016) define extrinsic motivation “as an incentive to do something that arises from factors outside the individual, such as rewards, penalties or social factors” (2016, p. 237). Gagnè and Deci together with other researchers (e.g. Ryan and Deci, 2000; Davis et al., 1992; Stock, Oliveira, and von Hippel, 2014) affirm that extrinsic motivation lead people to act “with the intention of obtaining a
desired consequence or avoiding an undesired one, so they are energized into action only when the action is instrumental to them” (2005, p. 334).

Extrinsic motivation is driven by the environment, which in most cases uses incentives or rewards that people will receive if they perform the target behavior. The incentives that are provided for prompting the extrinsic motivation, are usually provided when you want consumers to perform a specific behavior (Cerasoli, Nicklin and Ford, 2014). Several studies have been conducted to discover if the rewards and incentives that are in the environment can extrinsically motivate people.

The study of Condly, Clark and Stolovitch (2008) found that the incentives and dicentives are strongly related to performance. The research of Lynagh, Sanson-Fisher and Bonevski (2011) showed that the rewards used as an incentive for driving the extrinsic motivation, lead to a positive and effective performance. Baumann and Stiglitz (2013) in their study found that by providing the right incentives to the workers, they performed more effectively.

Nicholson (2014) argues that the rewards and incentives can work, but once you start to give a reward, you will have to keep it, because otherwise the consumer will not be motivated anymore. Although these different studies show that rewards and different types of incentives can drive extrinsic motivation, at the same time they also argue that the effectiveness will depend a lot on the context and on the performance or behavior (Cerasoli, Nicklin and Ford, 2014).

In the case of gamification, there are disagreements regarding the effectiveness of driving extrinsic motivation with game elements. Xu, Buhalis and Weber (2017) argue that the users cannot be extrinsically motivated by leaderboards, badges, and levels and so they are going to be demotivated in performing the target behavior. While Mekler et al. (2017) and Hofacker et al. (2016) argue that the users can be extrinsically motivated by the game elements, that are employed in gamification and consequentially they can prompt the extrinsic motivation of the consumers leading them to be engaged in the platform. This can lead the consumers to buy more products and leading them to a prolonged usage of the product. They want these incentives, because through the badges collected they can receive something in exchange (Hamari and Koivisto, 2015). The users strive to achieve the rewards because they are useful to them, so they are not just achieving them for their pleasure. Therefore, in this specific context the hypothesis is:

**H1: In the gamification platform, extrinsic motivation increases user purchase intention.**
On the other hand, Nicholson (2014) argues that the extrinsic motivation can drop or be detrimental for the intrinsic motivation (cf. Hofacker et al. 2016). Cerasoli et al. (2014) and other researchers (e.g. Mekler et al., 2017) argue that both intrinsic and extrinsic motivation promote the performance of the behavior, but intrinsic motivation is more effective. While Hamari and Koivisto (2015) do not share the same opinion, since they argue that a behavior sometimes can be mainly motivated by extrinsic motivation and the intrinsic motivation may come as a secondary influence. Regarding gamification, the opinions differ and Hamari and Koivisto (2015) argue that human motivation can have different sources and intrinsic and extrinsic both play an important role (Baumann and Stieglitz, 2013).

2.5.2 Intrinsic motivation

Intrinsic motivation is defined by Ryan and Deci (2000) and other researchers (e.g. Law, 2016; Stieglitz et al., 2017) as an incentive to do something, that arises from factors within the individual, such as a need to feel useful or for self-actualization, or to do things out of joy and love. While Gagnè and Deci (2005) together with other researchers (e.g. Davis, Bagozzi, and Warshaw, 1992; Deci and Ryan, 2000; Stock, Oliveira, and von Hippel, 2014) affirm that intrinsic motivation involves people doing an activity because they find it interesting and derive a spontaneous satisfaction from the activity itself.

The intrinsic motivation comes from within the person, when he/she is engaged in a task because she finds it interesting or fun. In fact, Werbach and Hunter (2012) suggest that in gamification it is not the badge, cards, levels, or leaderboards that increase the engagement per se, but instead it is the activity that they experience for getting the rewards (Zimmerling et al., 2016). According to Zimmerling et al. (2016) it is the gamification activity that truly motivates the user. For example, to achieve a special reward, the user needs to play and to follow a special procedure that above has been called game dynamics and if they enjoy the experience and start to be really committed they will receive a reward and be motivated again to recall the same experience (Zimmerling et al., 2016). Patall, Cooper and Robinson (2008) argue that when a person finds a task enjoyable or pleasurable, their engagement increases and they are likely to commit more time (Cerasoli et al., 2014). However, these rewards have a different meaning and for trying to motivate the users the designers base the system according to the needs of the people. Xu et al. suggest that gamification for achieving,” ... a deep engagement and high satisfaction, gamification needs to respond to the users’ inner needs” (2017, p.246). According to Murray “a need is a construct (a convenient fiction or hypothetical concept) that stands for a force (the physicochemical nature of which is unknown)
in the brain region, a force that organizes perception, apperception, intellection, and action in such a way as to transform in a certain direction an existing, unsatisfying situation. (1938, pp. 123-124)”. Since the intrinsic motivation comes from the person itself, to stimulate the intrinsic motivation these three basic needs should be satisfied.

According to the self-determination theory there are three mains need that prompt human motivation the need of competence, autonomy, and relatedness.

2.5.3 Competence
Consumers or users who want to satisfy their need for competence are intrinsically motivated by challenges. What they want is to develop new skills, overcome challenges and increase their level (Ryan and Deci, 2000; Tondello et al., 2016). Bandura (1993) argues that people who are motivated by competence anchor their expectations higher. They start to be more committed when they have new and challenging goals that can give them a sense of satisfaction and pleasure (Bandura, 1993). The more they overcome the challenges the more they are going to be engaged and will have the will to overcome new and difficult challenges (Bandura, 1993; Ryan and Deci, 2000). In line with this, Fisher (1978) in her research found out that people motivated intrinsically become even more engaged in what they are doing. The more challenging the task is the more they become engaged. This sort of engagement is called by White (1959) as self-efficacy. Being useful and effective in their environment makes feel them accomplished and this is the intrinsic motivation. Also, Hackman and Oldman (1975) suggest that people are more motivated when they perform effectively, and get positive emotions rather than performing poorly and getting negative emotions.

People who want to fulfill the competence need are intrinsically motivated and they want to progress in the system and complete the tasks that the system gives to them. Mitchell, Schuster and Drennan (2017) argue that consumers or users want to affect meaningfully the outcome or the result. Xu at al. in fact conclude that,” competence usually includes user’s feeling of having the ability to master the system and achieving goals, such as instant feedback, progression, leader boards and levels” (2017, p.247).

Gamification can fulfill the competence need and so directly motivate users intrinsically, providing to those consumers an experience where they continuously have new challenges. At the same time displaying their achievements in a leaderboards or in ranking systems, where all the people of their group will see it, allows them to measure themselves not only with the challenges proposed by the
platform but also to compete with the other users in the platform (Blohm and Leimeister, 2013; Cardador, Northcraft and Whicker, 2017). Levelling up and achieving badges, points, and cards can give the possibility to the users to easily accomplish short term goals, and show to the group members in this context their ability where they gain a sense of recognition for their abilities (Cardador, Northcraft and Whicker, 2017; Kapp, 2012).

For example, in the tourism sector Xu et al. (2017) found in their research that by providing challenges and specific goals to the tourists, they started to be intrinsically motivated. The tourists were engaged and they had a full immersion in the game itself, but also in the destination. Moreover, at the end of the experience the tourists had a memorable experience of the entire holiday.

Domínguez et al. (2013) found out that students are intrinsically motivated by badges and leaderboards. The rewards were encouraging them and the leaderboards were motivating them. The authors suggest that leaderboards and badges were a symbol for them, because having a lot of badges meant that they were performing good and that they were overcoming all the challenges of the system and at the same time they were comparing themselves with the others through the leaderboards. Although the same authors argued that there were some students that were completely indifferent or others who were even discouraged by the system. The same results were found also by Mekler et al. (2017). They experimented whether the competence need users were intrinsically motivated by the different gamified elements. The results showed that people were not motivated. The researchers argued that this maybe was due to the fact that the experiment was not providing the user with a challenging experience that could trigger his motivation.

Although different studies presented different results in terms of effectiveness of the game elements, most of the researchers agree that for intrinsically motivating the competence need users is the experience that they are going to experience during the gamified experience, therefore the hypothesis:

**H2: In the gamification platform, the intrinsic motivation of competence oriented people will increase user purchase intention.**

2.5.4 Autonomy

Consumers or users motivated by the need for autonomy wants to do things freely from any control and their actions are dictated by their interests or values (Mekler et al., 2017; Fisher, 1978). Decharm (1968) adds that they want to choose freely and at the same time they want to be the
initiators of their own choices and actions, without any interference. Sigala (2015) define it also as a sense of determination when they perform. Heider (1958) refers to it as internal perceived locus of control, where the decisions and actions come from the individual and not by external factors.

Fisher (1978) in her research showed that autonomy oriented people feel demotivated when they perceive that they are losing their autonomy. In the study of Schnall et al. (2015) autonomy was considered one of the most important things related to health of the people. Cerasoli et al. (2014) in his study showed that when people perceive a certain control from someone or they are deprived of their autonomy their performance drops in terms of quantity and in terms of quality. In line with the research of Cerasoli et al. (2014), Wrzesniewski and Dutton, (2001) found out that workers work hard and give positive results when they are free to arrange their work and they are much more creative in solving the problems. When the people perceive or feel autonomous their motivation increased showing positive results sand much higher intention in persisting in tasks, less procrastination, higher will of doing and positive outcomes in the learning process (Vansteenkiste et al., 2009). Experiments found that, high control gave as a result less engagement in tasks, less determination and perseverance, lower achievements, and more procrastination (Vansteenkiste et al., 2009). The factors that can undermine the autonomy according to the researchers are threats (Ryan and Deci, 2000), surveillance (Lepper and Greene, 1975), evaluation (Harackiewicz, Manderlink, and Sansone, 1984) and deadlines (Amabile, Dejong, and Lepper, 1976). If the individuals are somehow forced or manipulated to be engaged in a task they lose their intrinsic motivation.

In the specific case of gamification, users need to experience autonomy, and when the need is fulfilled they are intrinsically motivated. Their autonomy in this context consists in choosing what kind of game dynamics to pursue and what kind of activity to do. Lammers et al. (2016) calls this sense of autonomy as power. This sense of autonomy can be shown when they are the one who decides if they are going to take a challenge, if they are going to communicate with the others, if they are going to customize their profile and if they are going to be impacted by gamification. Hsu, Chang, and Lee (2013) showed that workers when they had the possibility to autonomously choose the group with whom to work, were much more committed and moreover, the social connection that they built was much stronger compared to people who were in a sense obliged to be in a group.

Meckler et al. (2017) showed in his study that the gamification activity partially motivated autonomy oriented people. While Wang et al. (2015) in his study demonstrated that sometimes these people in the environment can perceive some rewards as a control from the environment. In
fact, the rewards put in the system of the study showed negative results and people were intrinsically demotivated, because the social network could comment on their results. For gamification, in order to intrinsically motivate users with the need of autonomy, the system should let them choose what kind of game dynamics to pursue and what kind of activity to do. Therefore, the hypothesis is:

**H3: In the gamification platform, the intrinsic motivation of autonomy oriented people will increase user purchase intention.**

2.5.5 Relatedness

According to Ryan and Deci relatedness “refers to the desire to feel connected to others, to love and care and to be loved and cared for” (2000. p. 231). According to Cerasoli et al. the “relatedness needs capture the desire to have meaningful relationships with others and impact the degree to which individuals actualize innate tendencies for growth and exploration” (2016, p.784). People who have this need want to interact with others and create social connections. Hamari (2013) and other researchers (e.g. Tuckman, 1965; Ryan and Deci, 2000; Cialdini, Green and & Rusch, 1992; Kelman, 1958) state that fulfilling the need of socialization is necessary for human beings. In fact, human beings are always looking to be part of something and to be part of a group (Hamari and Koivisto, 2015). People who are intrinsically motivated by the need of relatedness will always tend to gravitate towards things or people who will satisfy their need (Cerasoli, Nicklin and Nassrelgrgawi, 2016).

In the literature for example, the social aspect is quite well discussed, and sometimes the researchers refer to it as social influence (Hamari, 2017). This shows how much the individuals can be affected by the community and are always looking to be part of the community (Aizen, 1991; Fishbein and Aizen, 1975). Van der Ven et al. (2011) in his study found out that people are willing to pay up to 64% more for a product that their group has already bought. This result shows how much people in general are looking to satisfy their need of relatedness and conformity to the group (Hamari, 2013). The social aspect is the most pleasant motivator. People are intrinsically motivated by the need for relatedness and they seek to acquire new friends and establish relations with the community. In fact, the study of Hsu, Chang, and Lee (2013) showed that workers particularly appreciate having an application in the platform for finding a group of people with whom to work.
Moreover, the study showed that people who were participating in a group were highly committed and their results were quite effective in terms of quality and quantity.

Hamari (2013) and other researchers (Witt, Scheiner and Robra-Bissantz, 2011; Conaway and Garay, 2014; Hanus and Fox, 2015, Blohm and Leimeister, 2013; Hamari and Koivisto, 2015) argue about the importance of social connection in their studies. Therefore, when the social features in a gamified environment are implemented in the system users are intrinsically motivated since their need for relatedness is fulfilled. In a gamified environment, the users can communicate between each other, can play together, and can exchange information (Hamari & Koivisto, 2013). This can greatly affect the experience in a gamified environment. The need of relatedness can be shown as a social comparison among the network (Hanus and Fox, 2015). In this perspective people with a high need for competence measure themselves not only with the system, but also with the other users of the platform or system. The community that surrounds the user can strongly affect their behavior. Hamari (2013;2017) suggests that people most likely are going to be engaged in a behavior when they note that others of their group are also engaged. The game elements that show the different levels of achievement or of experience will be without any value for the single player unless they have a community that sees their achievements. They get a sense of belonging, a sense of recognition from his group (Conaway & Garay, 2014). The social network was one of the most important factors to engage the users (Wu, et al.,2010). Due to the importance that the researchers give our hypothesis is:

\[ H4: \text{In the gamification platform, the intrinsic motivation of relatedness oriented people increases user purchase intention.} \]

2.6 Ability

One of the main elements in Fogg Behavior Model is ability, and Fogg (2009) defines it as the capability of the person at a particular moment of time to execute an action the behavior. The elements that constitute the ability are time, money, physical effort, brain cycles, social deviance, and non-routine (Fogg, 2009). Consumers differ concerning their possession of time, money, and other ability-related factors; which is why Fogg (2009) argues the importance of these components since all the customers should have the ability in this sense to execute the behavior (Fogg, 2009).

In this specific study, we are going to take into consideration three main variables. The first one is what Fogg calls Brain cycle. The author argues that if performing a target behavior causes the
person to think hard and requires a lot of effort the behavior will not be performed. Fogg (2009) argues that the behavior should be easy and free from effort. Davis (1989) call this variable as ease of use. Rodrigues, Oliveira, and Costa suggest that the ease of use “is the degree to which a person believes that using a particular system would be free from the effort” (2016, p. 116).

Ramayah and Ignatius (2005) suggest that understanding the process and how the system works is very important. In gamification is imperative, because if people do not understand how cards, levels, and other elements all work, they will not be susceptible to gamification. Moreover Rodrigues et al., (2016) argue that when a task is easy to, perceived usefulness will be higher. In the case of gamification, users who understand how the gamified system works are going to perceive a higher usefulness of the system. They are going to be more susceptible to gamification. On the contrary if they do not understand all the different processes, most probably they are not going to be susceptible to the gamified system. Hamari and Koivisto (2015) together with Rodrigues et al., (2016) argue that the brain-cycle variable is fundamental in their study. A positive ease of use has a positive effect in their intention of use and purchase.

Money is also important in the Fogg model. Money “is the financial ability of an individual to buy” (Fogg, 2009, p.). Fogg (2009) argues that if a targeted behavior requires to buy something that the person cannot afford the user will not buy. In the research of Iglesias-Pradas et al., (2013), they found that people who buy in online platforms are affected by the price. They showed that one concern for the buyers to not buy is that they do not have financial resources. Price and income are factors that a human being takes into account and are decisive when they decide to buy (Yu, 2008; Antioco and Kleijnen, 2010).

Users differ not only in terms of financial ability, but also in time that they can spend, so consumers that are engaged, will spend more time. Fogg (2009) argues that if the behavior requires time and people do not have it, most probably the behavior is not going to occur (Fogg,2009; Cheek, Piercy, and Grainger, 2015). Nir (1999) argues that time perception has a great effect in the lives of people and according to the time that they have they are going to choose what to do (Mattingly and Blanchi, 2003; Etkin, Evangelidis and Aaker, 2015). Winn et al. (2009) argue that the availability of disposable time can vary. According to the availability of time, it will also depend where and how they want to spend the time (Winn and Heeter, 2009; Mattingly and Blanchi, 2003). Therefore, most probably people who have enough time will spend it in the platform, while people that do not own enough time will not spend it in the gamified platform.
H5: Ability in terms of A) brain cycle, B) money, and c) time will affect user purchase intention.

2.7 Research Model and Hypothesis Summary

Our study uses the Fogg Behavior model to investigate the influence of gamification in the purchasing behavior of the consumers in the platform. Our research model specifically goes deep in the study of the motivation. In the Figure 2 and Table 1 the research model and hypotheses are summarized.

![Figure 2. Research Model](image)

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1:</td>
<td>In the gamification platform, extrinsic motivation increases user purchase intention.</td>
</tr>
<tr>
<td>H2:</td>
<td>In the gamification platform, the intrinsic motivation of competence oriented people will increase user purchase intention.</td>
</tr>
<tr>
<td>H3:</td>
<td>In the gamification platform, the intrinsic motivation of autonomy oriented people will increase user purchase intention.</td>
</tr>
<tr>
<td>H4:</td>
<td>In the gamification platform, the intrinsic motivation of relatedness oriented people increases user purchase intention.</td>
</tr>
<tr>
<td>H5:</td>
<td>Ability in terms of A) brain cycle, B) money, and c) time will affect user purchase intention.</td>
</tr>
</tbody>
</table>

Table 1. Hypothesis Summary
3. Methodology

The chapter covers the research method of the thesis, detailing the strategy used for collecting the data and the procedure for testing the validity and reliability of the work and the method used for analyzing the data to test the hypotheses.

3.1 Research method

The aim of the study is to explain how gamification motivates consumers, regarding their purchasing behavior on a digital retailing platform. The research question has an explanatory nature, as it attempts to explain the relationships between the different variables (Saunders, Lewis, and Thornhill, 2009).

To conduct the research, we use both inductive qualitative and deductive quantitative research methods in a two-step process. We have combined these two methods first for providing a richer approach for the collection of the data, secondly for strengthening the study, thirdly for being able to analyze and describe the results. The qualitative research was firstly conducted to increase our understanding for the phenomena and to evaluate the theory and the different variables. While the quantitative research conducted via surveys was used to test the different relationships between the variables and test the hypotheses.

3.1.2 Secondary data

To achieve the purpose of the research primary data and secondary data were collected. In business and management research they are both used, especially when the study involves both a case study and survey research (Saunders et al., 2009, p.258). Secondary data usually refers to when the data are already gathered and analyzed in reports, articles, publications, or internet resources (Saunders et al., 2009). Since our case study involves the Steam platform, to properly understand the mechanics of gamification, we collected secondary data from the website of the Steam community (Steamcommunity.com, 2017). This way of data collection was chosen, because we needed the information from the platform on the implemented gamification mechanics. The information that we took from the platform was not elaborated. It is the information on how cards, badges, and levels are achieved. This data is available to the public.
3.2 Qualitative Research

The qualitative research was done to create an accurate picture of the phenomena and understand what is important for the users. We decided to profile and interview two heavy users. They had a deep understanding for the dynamics in the Steam platform and they are two very loyal users. We interacted with them on the forum for about two weeks to be sure that they were the right people that could help us in our research. We decided to proceed in this way because finding two heavy users was difficult, especially in an online platform, and sometimes people were not so available or willing to answer our questions. This also helped us to understand their behavior on the platform.

Before the formal interview we developed an interview guide (see appendix 1) based on the theory. This was done to assure that all relevant topics were covered. The participants were told about the topic of the interview before being invited to participate. Supplying the participants with relevant information about topics and possible questions before the interview may promote credibility (Saunders et al., 2009). The respondent validation was done to ensure the reliability of our qualitative method (Bryman and Bell, 2011).

The two interviews were conducted via Skype and each they lasted approximately ½ hour. We were given permission to record the interviews. During the interviews, we followed our interview guide. Various literature on research methods informs of the danger of going out of context. It was one main concern and has been considered, and every time the respondents went beyond the context of the topic, the conversation was guided in the right direction.

During the interviews, we asked them the questions that we developed, but at the same time we asked them additional questions depending on their answers. At the end of the interviews we took a non-standardized non-structured approach. This took the form of a discussion regarding our topic. This approach allowed us to ask additional questions to follow up during the interview and to gain a deeper knowledge regarding the behavior of the two participants and the behavior of their friends in the Steam community.

The two interviewees started to be users of the platform since 2012 and they continue to be current Steam users. They live in Russia and are active Internet users, spending at least 4 hours on the platform and more hours during the day since their jobs are IT-related. The first participant had level 240 on Steam, which is considered high for the platform, which means he invested a
significant amount of time or/and money to achieve it. The second interviewee had level 19 and the number of the he owned was 416, the profile was carefully customized, and the number of achievements demonstrated on the profile was 1.356, which shows his affection for achievements. Interviewing heavy users gives the opportunity to understand much better the phenomena, but on the other hand we need to take into account the possible bias in interviewing two heavy users. They know much better on the phenomena but on the other hand they just have their point of view. Most of the consumers in the platform are active users, but not heavy one.

3.3 Quantitative Research

Quantitative research is a research strategy that is focused in the quantification of the data for statistical analysis. Through using statistical analysis this method gives the possibility to test the theories (Bryman and Bell, 2011). The research that has been conducted is defined as an explanatory research, since the aim is to understand the impact of gamification has on the consumer behavior. The questionnaire is an effective method used for studies in management and business (Bryman and Bell, 2011) and is the most used when quantitative data are needed.

In our case the online surveys have many advantages, for example, there are no geographic limitations, lower costs and faster response from the population compared to the paper-based questionnaire or the mail one (Bhattacherjee, 2001).

3.3.1 Sampling

Steam is a leading, if not the leading retail gaming platform, so we decided to focus on the case of Steam and the gamification techniques that have been implemented in the platform. The population of this study is the Steam users. The users that have only heard of the platform or the users that do not know at all the platform are out of our group of interest. According to the Steam statistics there are over 125 million active users (VG247, 2017) and they are in different countries, all over the world. For this reason, a sample is needed, since the population is too big and surveying all the users is impossible due to the time constraint.

For the study, we have implemented snowball sampling. In this case we had to identify who are the Steam members and contact them. We asked friends of friends, although in this way we could not reach the number of needed survey and moreover there was the risk that the sampling is biased. This is a danger, since asking friends they find respondents that are similar to them (Lee, 1993). So, the questionnaire was also published in platforms where we could find Steam users. The survey was
released in the different communities in the Steam platform and in Reddit.com, a well-known platform where most of the Steam users have an account. This was done for reducing the biases that the snowball sampling has.

3.3.2 Operationalization

In order to have a picture of the consumers or users that are present in the platform we asked in the questionnaire about their age, gender, their presence in the platform in hours spent daily, days spent in the week, and when they started to be users of the platform. We have not categorized the age, their presence on Steam during the week and their seniority in the platform, so the consumers were free to write down the related number in the questionnaire. For analysis, the hours spent daily in the platform were categorized into less than one hour, between 1 to 4 hours, between 5 to 8 hours and more than 8 hours.

Several research papers have considered similar topics of our study. Their methodology has been examined and for each variable, a suitable statement has been chosen or adapted to fit the context of the research study. In total, all the items that will help us to investigate our research question are 32.

As a primary unit measurement system, the Likert scale has been used for the questionnaire. According to the respondents they have to rate if they agree or disagree with the statements on the scale from 1 to 7, where 1 is completely disagree, and 7 stands for completely agree. The actions mentioned above were done to give our work credibility, validity, and reliability since it is important to be consistent in data collecting (Saunders et al., 2009).

We went through a variety of studies on gamification and motivation, looking for any questions from similar works that we could use for the research (Cohen, March, and Olsen, 1972). In fact, we took the question made for the motivation from other research papers, while the questions for the other variables were not available for our case, so we decided to take some similar issues and change a few the wordings for best fit.

The statements regarding the relatedness (MS1, MS2, MS3, MS4), autonomy (MF1, MF2, MF3, MF4), competence (MA1, MA2, MA3, MA4), extrinsic (MP1, MP2, MP3, MP4) were taken from the work of Tondello et al. (2016).
<table>
<thead>
<tr>
<th>MS1</th>
<th>Interacting with others is important to me.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS2</td>
<td>I like being part of a team.</td>
</tr>
<tr>
<td>MS3</td>
<td>It is important to me to feel like I am part of a community.</td>
</tr>
<tr>
<td>MS4</td>
<td>I enjoy group activities.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MF1</th>
<th>It is important to me to follow my own path.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MF2</td>
<td>I often let my curiosity guide me.</td>
</tr>
<tr>
<td>MF3</td>
<td>I like to try new things.</td>
</tr>
<tr>
<td>MF4</td>
<td>Being independent is important to me.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MA1</th>
<th>I like defeating obstacles</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA2</td>
<td>It is important to me to always carry out my tasks completely</td>
</tr>
<tr>
<td>MA3</td>
<td>It is difficult for me to let go of a problem before I have found a solution.</td>
</tr>
<tr>
<td>MA4</td>
<td>I like mastering difficult tasks</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MP1</th>
<th>I like competitions where a prize can be won.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MP2</td>
<td>Rewards are a great way to motivate me.</td>
</tr>
<tr>
<td>MP3</td>
<td>Return of investment is important to me.</td>
</tr>
<tr>
<td>MP4</td>
<td>If the reward is sufficient I will put in the effort.</td>
</tr>
</tbody>
</table>

The statements regarding the Brain cycle were adapted to fit the context and based on the work of de-Marcos et al. (2014).

<table>
<thead>
<tr>
<th>AB1</th>
<th>The process of gaining levels was easy to understand</th>
</tr>
</thead>
<tbody>
<tr>
<td>AB2</td>
<td>The process of crafting badges was easy to understand</td>
</tr>
<tr>
<td>AB3</td>
<td>The process of customizing profile was easy to understand</td>
</tr>
</tbody>
</table>

The statements regarding the Money were adapted and taken from the work of Charlton and Danforth (2007) and Ajzen, Brown and Carvajal (2004). Since the users of the Steam platform come from different countries, it was difficult to ask them their income in the different currencies, so we considered that asking them if they can afford to buy.

<table>
<thead>
<tr>
<th>AM1</th>
<th>I can buy new things for customizing my profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM2</td>
<td>I can afford spending money to achieve the level I want</td>
</tr>
</tbody>
</table>
The statements regarding the Time were adapted and taken from the work of Ajzen, Brown and Carvajal (2004). The item measure if they consider having time to play in the platform.

| AT1 | I can spend as much time as I want on crafting badges |

The statements regarding the Behavior were adapted to fit the context and taken from the work of Kuo and Chuang (2016), Shang and Lin (2013), Hamari and Koivisto (2015) and Fan, Xiao, and Su (2015) and Witt et al. (2011).

| BETR1 | Sales encourage me to buy more games |
| BETR2 | Opportunity to customize my profile encourages me to buy profile customization items. |
| BETR3 | Opportunity to customize my profile encourages me to spend more time on Steam |
| BETR4 | The levelling mechanism encourages me to spend money on Steam |
| BETR5 | The levelling mechanism encourages me to spend more time on Steam |
| BETR6 | I follow activities of my friends on Steam (posts, updates, news feed, etc) |
| BETR7 | I play games with my friends rather than alone |
| BETR8 | The opportunity to craft badges encourage me to play games on Steam |
| BETR9 | At least one of the Steam game elements (levels, badges, etc) encourages me to keep using Steam |
| BETR10 | Prices on the games is the decisive factor for me to use Steam |

3.3.3 Pilot study
The questionnaire was designed completely in English. In order to finalize the survey, it was important to ensure that the questions were easy to understand for the participants. To achieve this, we conducted a pilot run according to the instruction of the book (Saunders et al., 2009). Six people for this purpose were selected. They were asked to complete the survey and give feedback, whether it is easy to understand the questions and if the logic behind them is understandable so that the respondents do not get confused.
The pilot survey was fruitful and informative. The participants pointed out vague and duplicating questions, so we reworked them, for example changing the grading for the amount of time spent on the platform per day. Originally, we used a question from another research, where the maximum answer was “Over 4 hours”, but in our case, there are engaged players, spending 4-7 hours per day, and hardcore ones, who stay over 8 hours daily on Steam. The other remarks were about the formulation of the questions. Another concern regarded the time needed for filling the survey. Since the time to complete the survey should be kept within 15 minutes (Saunders et al., 2009), we asked two professors to read and approve it.

Another main point is if the questions, can measure the concepts. The pilot testing was done with the purpose not only for understanding if the questions were comprehensible but also whether or not on the questions reflected the concept we meant (Bryman and Bell, 2011). It was done to measure the face validity, and the judges were people that are users of Steam and nonusers. After being sure that the questionnaire would help to answer to the research question the survey has been published in the different communities in the Steam platform and also in the site of Reddit.com.

3.4 Data analysis

We received 232 responses, but we had to eliminate the ones with inadequate answers. The invalid surveys were filtered based on the age, years of usage and we looked through the different answers given by the respondents. We saw if the answers were coherent or not. According to these criteria, we removed 37 invalid results, so the final number of responses was 195. The sampling was sufficient to conduct the analysis (Saunders et al., 2009; Pallant, 2007).

The data from the survey was processed with IBM SPSS Statistics software.

1. In the beginning descriptive statistics were generated to show the characteristics of the respondents. This step was done to describe the sample of the population by gender, age, presence on the platform and seniority in the platform. Another reason was to ensure the normality of the population and to check for the possible outliers.

2. Reliability analysis was done for testing the internal consistency of the latent variable.

3. Exploratory factor analysis in SPSS was used to test the construct validity of different variables and assess whether the individual items could be aggregated into latent variables.
4. Regression analysis was conducted to test the hypotheses. Before conducting the regression analysis, we merged the different items for creating the variable. All the variables had the same scale was from 1 to 7. They were merged by calculating the mean for each of them. One of the main concerns regarding the fact of using a mean is that the extreme values disappear. Moreover, if the data are not analyzed properly for eliminating the outliers, this can create problems when the variable is merged.

3.5 Limitations

The main limitation of our research paper is the fact that we cannot assume that the results from 195 respondents can generalized to the whole population of Steam users. The majority of the survey participants are from the United States, which might impact the results due to different living standards, salaries, and prices. The second important limitation is the time and resource constraints. It is worth noting that we do not take into account all the possible variables such as the purchasing power of the Steam users, their geographic dispersion, and they have different salaries. As well as the occupation, we do not look whether the participants are students or working people, which can have a strong influence on purchasing behavior and engagement time limits. Out of 195 respondents, only 16 are females, which is 8.2%. According to external sources, out of 52% of Steam users, 4% are women, so we can project the percentages of females to be fair (Steam Spy, 2017).

Another important limitation is the fact that since the survey method has been used for collecting the data, the respondents may not have understood properly, even though we have taken actions for avoiding this potential issue.
4. Results analysis

The first part of this chapter introduces the result of qualitative research. The second part shows the result of quantitative research including sample profile, factor analysis, reliability analysis, the standard multiple regression, and hypotheses testing.

4.1 Qualitative results

The first interviewee describes himself as an experienced user of Steam, with over 5 years of presence on it. He is 24 years old male, earning 20,000 rubbles (~700 USD) per month, which is a high salary for his region. Even though he has full-time work, he usually spends around 4 hours per day on Steam. His current level at the time of interview is 300. The first reaction to the question about collecting badges and achieving levels, the participant claimed that the process of achieving levels and collecting badges was simply entertaining. But after a series of questions regarding the social interaction on the platform the participant stated that higher level gives him more opportunities to communicate with the platform users. While he perceives the purchase of the games for levelling as profitable or economically beneficial, since he buys them only during the sales for lower prices, it also has social meaning to him. Being on the top list of his friends’ lists, he gets to know new people more, than when he was low on levels.

The first interviewee reasoned that the purchases of games for gamification purposes were conducted during the sales with a goal of reducing the money spent. Every sales period he acquires a few dozens games, receives cards from those and later on trades the cards to craft badges. According to the interviewee, it minimizes the costs while increasing his level by 10-20 per sales period by spending a few hours on the process. As observed, the change occurs on a scheduled basis, with the behavior change involving higher engagement into the platform, as the time spent is significant, and minor financial investments. From the perspective of this paper’s theoretical framework, this interviewee appears to possess strong desire for achievement and socialization on the platform.

The second interviewee is 22 years old male, working remotely as a freelancer with income averaging at 23,000 rubbles monthly (~750 USD). He invests considerable time into Steam. During the second interview, the participant describes his interest in collecting game, badges, and achievements, along with a certain affection for his customizing profile. He spends around 8 hours per day browsing Steam, which puts him in the category of hardcore platform users. Even though he
enjoys the social aspects of using the platform, he does not put effort into purchasing cards or games for additional levels. He feels comfortable with his current level of 23. The process of obtaining achievements and badges is enjoyable and interesting for this person. He also strives to receive as many achievements as possible, as it gives him the feeling of accomplishment, according to his response. In scope of the theory, this participant shows himself as a mix of achiever and player type. He benefits the most from the opportunity to collect and achieve, while enjoying the process of doing so.

From the two interviews, we obtained an idea of what stands behind people’s ambition for gamified elements, levels, and profile customization in particular. We suggest that users purchase levels to fit their social circle or to become more popular among the other platform users. Higher levels and presence of expensive items on the profile page encourage others to establish connections with that person by adding to the friend list, chatting and inviting to games. The response to the question about choosing between Steam and another platform was similar for both respondents: another platform should either possess strong economical stimuli, as cheaper games, or their friends should be present on it. Also, the virtual items and progress already achieved on Steam make switching the platform more difficult, as it takes time to set up profile, receive achievements and build up friend list again.

4.2 Quantitative results

4.2.1 Descriptive statistics

The number of the total questionnaire received was 232, and we removed 37 of them because they were not suitable; either the surveys were not completed or the answers were given randomly. The total analysis sample is 195 and in table 2 there are descriptive statistics. The women are in the minority (8,2%) while most of the respondents are men (91,8%). According to the external sources, most of the users of Steam are men while the women are a minority (Steam Spy, 2017). According to this, we can say that the sample is well calibrated and represents the population. The sample varies a lot regarding their age, but the majority of the respondents are young between 16 to 20 years old (38,8%).

The time spent on the platform varies a lot, in fact, 58% of the sample spend between one to four hours on the platform. Only 8,2% of the sample spend less than one hour, while 22,1% spend between 5 to 8 hours, and 12,3% of the sample spend more than eight hours on the platform. This
shows that the population is well distributed and that they are engaged and they presumably enjoy their time in the platform. This is supported by the finding that 61.2% of the users spend seven days in a week on the platform. While the seniority of the people in the platform varies a lot, the sample it is well distributed. As you can see on the table most of the sample are users of the platform for a long time, and it shows engagement throughout these years.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Male</th>
<th>179</th>
<th>91.80%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>16</td>
<td></td>
<td>8.20%</td>
</tr>
<tr>
<td>Age</td>
<td>Below 15 years old</td>
<td>19</td>
<td>9.7%</td>
</tr>
<tr>
<td></td>
<td>16-20</td>
<td>76</td>
<td>38.8%</td>
</tr>
<tr>
<td></td>
<td>21-25</td>
<td>52</td>
<td>24.5%</td>
</tr>
<tr>
<td></td>
<td>26-30</td>
<td>29</td>
<td>15%</td>
</tr>
<tr>
<td></td>
<td>Over 31 years old</td>
<td>20</td>
<td>11%</td>
</tr>
<tr>
<td>Hours spend in one day in the platform</td>
<td>Less than 1 hour</td>
<td>16</td>
<td>8.2%</td>
</tr>
<tr>
<td></td>
<td>1-4 hours</td>
<td>112</td>
<td>58%</td>
</tr>
<tr>
<td></td>
<td>5-8 hours</td>
<td>43</td>
<td>22.1%</td>
</tr>
<tr>
<td></td>
<td>More than 8 hours</td>
<td>24</td>
<td>12.3%</td>
</tr>
<tr>
<td>Days spent in one week in the platform</td>
<td>1 day</td>
<td>2</td>
<td>1%</td>
</tr>
<tr>
<td></td>
<td>2 days</td>
<td>4</td>
<td>2%</td>
</tr>
<tr>
<td></td>
<td>3 days</td>
<td>4</td>
<td>2%</td>
</tr>
<tr>
<td></td>
<td>4 days</td>
<td>17</td>
<td>8.7%</td>
</tr>
<tr>
<td></td>
<td>5 days</td>
<td>23</td>
<td>11.7%</td>
</tr>
<tr>
<td></td>
<td>6 days</td>
<td>25</td>
<td>13%</td>
</tr>
<tr>
<td></td>
<td>7 days</td>
<td>120</td>
<td>61.2%</td>
</tr>
<tr>
<td>Seniority in the platform</td>
<td>1 year or less</td>
<td>4</td>
<td>2%</td>
</tr>
<tr>
<td></td>
<td>2 years</td>
<td>13</td>
<td>6.6%</td>
</tr>
<tr>
<td></td>
<td>3 years</td>
<td>30</td>
<td>15%</td>
</tr>
<tr>
<td></td>
<td>4 years</td>
<td>34</td>
<td>17.3%</td>
</tr>
<tr>
<td></td>
<td>5 years</td>
<td>34</td>
<td>17.3%</td>
</tr>
<tr>
<td></td>
<td>6 years</td>
<td>23</td>
<td>8.2%</td>
</tr>
<tr>
<td></td>
<td>7 years</td>
<td>16</td>
<td>10.1%</td>
</tr>
<tr>
<td></td>
<td>8 years</td>
<td>11</td>
<td>5.6%</td>
</tr>
<tr>
<td></td>
<td>9 years</td>
<td>8</td>
<td>4.1%</td>
</tr>
<tr>
<td></td>
<td>10 years or more</td>
<td>23</td>
<td>11.7%</td>
</tr>
</tbody>
</table>

*Table 2. Descriptive Statistics*
4.2.2 Factor analysis

Latent constructs are not directly observable phenomena like motivation. In the current research, we have operationalized various types of motivation, or latent constructs, through questions in our questionnaire. Exploratory factor analysis is conducted when you want to understand the interrelationships between a set of items (Pallant, 2007). It provides a way to establish construct validity by examining convergent validity and discriminant validity (Pallant, 2007). It provides guidance in combining the directly observed answers in the questionnaire into aggregated variables representing our latent constructs.

Firstly, all the extreme outliers were removed since factor analysis is quite sensitive to them according to Pallant (2007). Next, we considered sample size. Our sample size is 195, which is considered acceptable to conduct a factor analysis. We chose principal component estimation using the varimax rotation. We tried the factor analysis with all items, however the solutions were not interpretable. Instead, we removed the dependent variable and then ran all possible pairs of independent variables. All of the variables loaded on the proper factor (convergent validity) and there were no cross-loadings (discriminant validity), so we conclude that we have construct validity for all the independent variables. Moreover, the model of the independent factor analysis can explain 64% of the total variance.

With SPSS Statistics program, the Kaiser-Meyer-Olkin and the Bartlett’s Sphericity were calculated. We only show them for the analysis with all independent variables (table 3) and the dependent variable (table 4). For the factor analysis conducted for the independent variables the KMO was of 0.777, which is above of the required 0.6, considered the minimum in terms of acceptability according to Pallant (2007). While Bartlett’s Sphericity was significant, the p-value<0.001 and the minimum in terms of acceptability the p-value should be <0.005 (Pallant, 2007). Also, the value for the sampling adequacy of the dependent variable was above the recommended value.

| Keiser-Meyer-Olkin measure of sampling adequacy | ,777 |
| Bartlett's test of Sphericity | Approx. Chi Square | 1582,89 |
| | df | 231 |
| | Sig. | ,000 |

Table 3. KMO Test and Bartlett’s Sphericity for the independent variable
Keiser-Meyer-Olkin measure of sampling adequacy & 0.815 \\
Bartlett’s test of Sphericity & \begin{tabular}{|c|c|} 
\hline
Approx. Chi Square & 635,005 \\
\hline
\hline
\hline
df & 45 \\
\hline
Sig. & 0.000 \\
\hline
\end{tabular} \\

Table 4. KMO Test and Bartlett’s Sphericity for the dependent variable

In table 5 there are the factor loadings of the independent variables, while in table 6 there is the factor loadings of the dependent variable.

<table>
<thead>
<tr>
<th>Component (factor)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>AB1</td>
<td>0.875</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AB2</td>
<td>0.848</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AB3</td>
<td>0.809</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AM1</td>
<td>0.755</td>
<td>0.751</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AM2</td>
<td>0.769</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AT1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MS1</td>
<td>0.822</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MS2</td>
<td>0.838</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MS3</td>
<td>0.705</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MS4</td>
<td>0.848</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MF1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MF2</td>
<td>0.534</td>
<td>0.823</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MF3</td>
<td>0.482</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MF4</td>
<td>0.708</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MA1</td>
<td>0.614</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MA2</td>
<td>0.655</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MA3</td>
<td>0.746</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MA4</td>
<td>0.698</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MP1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.607</td>
</tr>
<tr>
<td>MP2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.751</td>
<td></td>
</tr>
<tr>
<td>MP3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.567</td>
<td></td>
</tr>
<tr>
<td>MP4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.724</td>
<td></td>
</tr>
</tbody>
</table>

Table 5. Factor Loading independent variables rotated matrix
According to the results of the factor analysis the dependent variable has three distinct factors. In retrospect, given the wording of the questions, this makes sense. The wording of the questions does not directly mean purchase intent, but rather usage intent based on three different aspects related to price, social, and game mechanics and dynamics.

Factor one is BETR1 and BETR10, and concerns price and purchase behaviors. Factor two is BETR6 and BETR7 and concerns social behaviors. Factor three has the remaining questions, BETR2, BETR3, BETR4, BETR5, BETR8, and BETR9, and it concerns gaming mechanics and dynamics in their relation to the purchasing behaviors. We decided that instead of running a single regression to test only purchase intention, we will run three regressions to get a more nuanced picture of behavioral outcomes.

4.2.3 Reliability

Reliability is one of the most important things to measure when you are creating latent constructs. Cronbach’s alpha is the coefficient that measures the reliability of the construct and particularly measures the internal consistency. The internal consistency is when to what degree all the items measure the same concept or the same construct. It is connected to the inter-relatedness between the items. According to Pallant the Cronbach’s alpha should be at least 0.7 or greater. Table 7 shows the results of the reliability test.

The reliability of Autonomy, Extrinsic, and Money are slightly below the recommended cutoff, but Pallant (2007) argues that is normal to have a low Cronbach’s alpha when the number of items are small. Moreover, Tavakol and Dennick (2011) argues that a low Cronbach alpha is due to the low number of questions, but also to the poor correlation between the items or because of a
heterogeneous construct. Nevertheless, we assume the constructs to be reliable enough to continue with the analysis.

The reliability of two of the sub-dimensions for the dependent variable were well under the standard .7 cutoff. BETR1 and BETR10 related to pricing was .399, while BETR6 and BETR7, related to social aspects was .178. This can be related to the nature of the measures and does not necessarily mean they are not unidimensional. We ran four regressions using the individual indicators, as opposed to the latent constructs, and there were no substantial changes in the results, so we decided to go ahead and add the indicators to form the latent variables suggested by the factor analysis.

Except for the two sub-dimensions of the dependent variable, we can conclude that our latent variables, have good construct validity and they are reliable. We now add all the items together for each construct to form an average. The averages are operationalization for their respective latent constructs. We use them in our regression to test the hypotheses.

<table>
<thead>
<tr>
<th>Construct</th>
<th>Cronbach Alpha</th>
<th>Cronbach Alpha if the item is deleted</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOCIALIZER</td>
<td>0.855</td>
<td>0.800 0.782 0.868 0.805</td>
</tr>
<tr>
<td>MA</td>
<td>0.707</td>
<td>0.614 0.639 0.678 0.641</td>
</tr>
<tr>
<td>MF</td>
<td>0.643</td>
<td>0.525 0.582 0.578 0.602</td>
</tr>
<tr>
<td>MP</td>
<td>0.676</td>
<td>0.621 0.549 0.660 0.568</td>
</tr>
<tr>
<td>TIME/MONEY</td>
<td>/</td>
<td>/ /</td>
</tr>
<tr>
<td>COMPREHENSION</td>
<td>0.854</td>
<td>0.760 0.750 0.865</td>
</tr>
</tbody>
</table>

Table 7. Reliability tests for independent variable
4.2.4 Normality

Before starting to conduct the three regression models all the outliers were checked. This was also done before conducting the factor analysis. Another step to take before running the regression models is to check the kurtosis and skewness of the variables. The values of kurtosis and skewness were within the normal standards (Pallant 2007).

4.2.5 Multicollinearity and Pearson Correlation

In order to examine the relationship between the dependent variable and the independent variables, we ran a standard ordinary least squares (OLS) regression model. Before conducting the regression model, there were a few steps that we did. In the table 9 there is the Pearson correlation between the independent variables. According to Pallant (2007) the correlation coefficients should be less than an absolute value of 0.9. All the independent variables that presented in the table have values that are below 0.9 and it means that there are no problems with the multicollinearity.
Although the values present in the table 9 are below the recommended value that is 0.9, the values are high. For this reason, a collinearity test has been run in the regression. In the table 10 there are the variance inflation factors (VIF), which according to Pallant (2007) should be below 10. The highest value is 1.638, so the model easily passes this test and we have no issues with multicollinearity. These procedures are done for being sure that none of the predictors has a strong relationship with other predictors.

<table>
<thead>
<tr>
<th>Collinearity statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Tolerance</td>
</tr>
<tr>
<td>Relatedness</td>
</tr>
<tr>
<td>Competence</td>
</tr>
<tr>
<td>Autonomy</td>
</tr>
<tr>
<td>Extrinsic</td>
</tr>
<tr>
<td>Brain Cycle</td>
</tr>
<tr>
<td>Money</td>
</tr>
<tr>
<td>Time</td>
</tr>
</tbody>
</table>

Table 10. Total variance inflation

All these values for testing the multicollinearity and normality are valid for all the three different regression models.

4.2.6 Standard Multiple Regressions

In this research study, standard ordinary least squares (OLS) multiple regression is used to examine the relationship between the dependent variable and seven independent variables, and further test the significance and compare the effect of the different variables. Since in our factor analysis the dependent variable was composed of 3 different components we decided to do three different regression models for having a higher understanding of the phenomena. The first regression model has as a dependent variable the mean between BETR1 and BETR10. This two items measure if extrinsic and intrinsic motivation and ability are related to the pricing strategy of the platform

1° regression model

Regression one, whether purchase intention is connected directly to pricing in the platform.

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adj. R Square</th>
<th>Sdt. Error Estime</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0,146b</td>
<td>0,021</td>
<td>-0,015</td>
<td>1,20684</td>
</tr>
</tbody>
</table>

a. Dependant variable: BETR1-10
b. Predictors: Constant, Time, Money, Relatedness, Brain Cycle, Competence, Autonomy, Extrinsic

Table II. Table summary
According to the regression output, none of the independent variables have any influence on the dependent variable. The explained variance is extremely low (R² = 2%), the F-statistic is insignificant and none of the independent variables have a significant effect. Apparently, price is not directly related to any of the extrinsic or intrinsic motivators.

### 2° Regression model

Regression two, whether purchase intention is connected to the social aspects in the platform.
In this regression, 22.4% of the variance is explained and the F-statistic is significant with a p-value of 0.00 and F of 7.714. The critical cut-off for the t-statistic in the coefficients table is 1.645 with a one-sided hypothesis and probability of 95%. This means that AB and MS are the only significant independent variables. AB refers to Ability and is operationalized as the processes being easily understood. MS is the relational construct and is operationalized as liking to be part of a group or community. Perhaps not surprisingly, the variables have a significant impact on the behavioural intention to play, and presumably purchase for social reasons.

### 3° Regression model

Regression three, whether purchase intention is connected to game mechanics and dynamics.

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adj. R Square</th>
<th>Sdt. Error Estime</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0,551b</td>
<td>0,303</td>
<td>0,277</td>
<td>1,31937</td>
</tr>
</tbody>
</table>

a. Dependant variable: BETR2-3-4-5-8-9

b. Predictors: Constant, Time, Money, Relatedness, Brain Cycle, Competence, Autonomy, Extrinsic

### Table 17. Model summary

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>141,781</td>
<td>7</td>
<td>20,254</td>
<td>11,64</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>325,516</td>
<td>187</td>
<td>1,741</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>467,297</td>
<td>194</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependant variable: BETR2-3-4-5-8-9

b. Predictors: Constant, Time, Money, Relatedness, Brain Cycle, Competence, Autonomy, Extrinsic

### Table 18. Anova
### Table 19. Regression model

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized coefficients</th>
<th>Standardized coefficient</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Beta</td>
<td>Std Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>0.077</td>
<td>0.821</td>
<td>0.094</td>
<td>0.925</td>
</tr>
<tr>
<td>Relatedness</td>
<td>0.051</td>
<td>0.080</td>
<td>0.044</td>
<td>0.645</td>
</tr>
<tr>
<td>Autonomy</td>
<td>-0.145</td>
<td>0.126</td>
<td>-0.079</td>
<td>-1.155</td>
</tr>
<tr>
<td>Competence</td>
<td>0.030</td>
<td>0.119</td>
<td>0.018</td>
<td>0.254</td>
</tr>
<tr>
<td>Extrinsic</td>
<td>0.209</td>
<td>0.111</td>
<td>0.136</td>
<td>1.886</td>
</tr>
<tr>
<td>Brain Cycle</td>
<td>0.075</td>
<td>0.084</td>
<td>0.064</td>
<td>0.896</td>
</tr>
<tr>
<td>Money</td>
<td>0.285</td>
<td>0.068</td>
<td>0.326</td>
<td>4.178</td>
</tr>
<tr>
<td>Time</td>
<td>0.151</td>
<td>0.055</td>
<td>0.21</td>
<td>2.762</td>
</tr>
</tbody>
</table>

In this regression, 30.3% of the variance is explained and the F-statistic is significant with a p-value of 0.00 and F of 11.636. Again, the critical cut off for the t-statistic in the coefficients table is 1.645 with a one-sided hypothesis and probability of 95%. This means that AM and MP and AT1 are the only significant independent variables. AM refers to the affordability of purchasing. MP is the influence of extrinsic motivators on purchase intention, operationalized as external rewards as motivators. AT1 is operationalized as how much disposable time a user has. What this means is a user with time and who can afford to purchase, is extrinsically motivated through mechanics and dynamics in the gamified platform to purchase.

**4.3 Summary of the results**

According to the first regression model neither intrinsic or extrinsic motivation are related to the pricing in the Steam platform. This shows that the prices present in the platform are not dependent on the different types of motivation. It seems that sales and the price strategy are not even related to the ability of the consumers. We hoped that at least people will be glad to spend more money and time because of the pricing strategy in the platform, but it seems that it is not like this.

In the second model, the social aspect of the platform is important for people who want to fulfil the need of relatedness and so motivate them intrinsically. The social aspect is related to the use of the platform as a social media. Also, another significant variable in the model is the Brain cycle, which is the ability to understand the system and the process itself. This is important because it means that
if they do not understand how the system works they will not benefit of the elements present in the platform.

The third regression model showed that it is the extrinsic motivation with time and money that better predicts the dependent variable. The users or consumers in the platform see the game elements as extrinsic rewards and they achieve them for a possible return. Also, time and money showed to be important predictors of the dependent variable.

We have, in this section of the thesis, specifically chosen to not directly refer to the dependent variable as purchase intention. The wording of the questions for the dependent variable reflects intention to use, which arguably translates to purchase intention. However, because the dependent variable reflects usage in terms of pricing, social, and game elements, it seems appropriate to be careful in directly saying purchase intention.

The summary of hypotheses in table 11 represents whether the hypothesis was supported in any of the three regressions.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Supported</th>
<th>Not supported</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H1:</strong> In the gamification platform, extrinsic motivation increases their purchase intention.</td>
<td>Supported</td>
<td></td>
</tr>
<tr>
<td><strong>H2:</strong> In the gamification platform, the intrinsic motivation of competence oriented people will increase their purchase intention.</td>
<td>Not supported</td>
<td></td>
</tr>
<tr>
<td><strong>H3:</strong> In the gamification platform, the intrinsic motivation of autonomy oriented people will increase their purchase intention.</td>
<td>Not supported</td>
<td></td>
</tr>
<tr>
<td><strong>H4:</strong> In the gamification platform, the intrinsic motivation of relatedness oriented people increases their purchase intention.</td>
<td>Supported</td>
<td></td>
</tr>
<tr>
<td><strong>H5:</strong> Ability in terms of A) brain cycle, B) money, and c) time will affect the purchase intention.</td>
<td>Supported</td>
<td></td>
</tr>
</tbody>
</table>

*Table 20. Summary of findings*
5. Discussion

The purpose of this study is to understand and find how gamification influence the consumer behavior, since several definitions of gamification suggest that gamification has the ability to shape or influence the behavior of the consumers (Swan, 2012). Our study focuses on the motivation that prompt people in their purchase intention. We apply Fogg behavior model as the main theoretical framework with motivation, ability, and trigger as main variables to understand the effects of gamification. One thing that can be questioned to our work is the fact that the dependent variable, the purchase intention has not been measured properly. In fact, when the factor analysis was run for the dependent variable the results showed that instead of having one component we had three. The first component concerns price and purchase behavior, the second component concerns the social behavior while the third component concerns gaming mechanism and game dynamics in relation to the purchase behavior. According to the data that we collected we will discuss for each variable.

5.1 Extrinsic Motivation

Extrinsic motivation the independent variable that lead people to act “with the intention of obtaining a desired consequence or avoiding an undesired one, so they are energized into action only when the action is instrumental to them” (Gagné and Deci, 2005, p. 334). According to our findings for hypothesis 1, the users of Steam platform are motivated extrinsically by the rewards offered in the gamification system. The first interviewee stated that he was mainly motivated to buy the games on the Steam Platform to receive rewards, which include cards, badges, customizable profile elements and levels. In a sense, he was looking at the possible utility that the different items could give to him.

Regarding the quantitative results, they confirmed that people in the platform are extrinsically motivated. Looking deeper in the quantitative part,n the first regression where the dependent variable concerns the price and purchase behavior, the extrinsic motivation did not affect the dependent variable. Regarding the second regression model where the dependent variable concerned the social behavior, the extrinsic motivation did not affect the dependent variable. This can be due to the fact that the measure of the dependent was not made properly. While the third regression model where the dependent variable concerns gaming mechanics and dynamics in their relation to the purchasing intention the extrinsic motivation positively affects the dependent variable. We interpret this as support for hypothesis 1. In a study of Maican, Lixandroiu and Constantin (2016) a similar experiment was made, where they tried to use a gamified platform to
increase the general culture or knowledge of the people. The rewards had a utilitarian use. In our context, the different rewards can be used in a game, or to receive a discount for another game, or other elements like profile, levels, or badges. Users can receive an item or something that they can use in the game, or in the gamified environment. These results are in line with the study of Hamari (2013). Even though the different game mechanics and dynamics have a different meaning for the users, the interviewees answered the question about choosing between Steam and another platform, that the other platform should either possess strong economical stimuli, as cheaper games, or their friends should be present on it. This shows a certain loyalty towards the platform. The virtual items and progress already achieved on Steam make switching the platform more difficult, as it takes time to set up a profile, receive achievements and build up friend list again.

5.2 Intrinsic motivation

Intrinsic motivation is defined by Ryan and Deci (2000) as an incentive to do something, that arises from factors within the individual, such as a need to feel useful or for self-actualization, or to do things out of joy and love. Researchers have argued that in the gamified system the creators need to take into account the intrinsic motivation since it is considered to be effective. Maican et al. (2016) claim that one of the main reason for failing in applying gamification is not including the intrinsic motivation. Although different studies suggest that the game elements can fulfil the need of autonomy, relatedness, and competence, our findings cannot confirm that competence and autonomy do motivate the users.

5.2.1 Competence

The independent variable competence showed to not affect the dependent variables and in fact H2 was not supported. Users who are intrinsically motivated to fulfil the need of competence want to feel competent by overcoming challenges and at the same time have new challenges for acquiring new skills. Therefore, providing them with such an experience means motivating them intrinsically, but according to our findings, the users of Steam are not intrinsically motivated by fulfilling the need for competence. This finding differs first of all from our qualitative data and from the information in other research papers. According to one of the interviewees, when he achieves a level he has a sense of accomplishment, which is why he strives for gaining more levels, badges, and so on. While according to the other researchers in the education context, the need for competence was a major motivator (Hanus and Fox, 2015). The need for competence intrinsically motivated the students in assorted studies, it increased their performance. Having clear goals was
what they really liked. In the same way with gamification in the company, several studies suggest that employees are intrinsically motivated. Mekler et al (2016) in their experimental study in gamification found that competence oriented people were motivated intrinsically in the experiment that they conducted.

On the other hand, we can also explain this because the measurement of the dependent variable was possibly flawed. In fact, the first component of the dependent variable concerns the price and purchase behaviors. The questions were about if the price in the platform is convenient for them and if the period sales were encouraging them to purchase more. Since this it is not related to the possible experience in gamification this can explain why the hypotheses in the first regression were not supported. There was no affect the dependent variable. The second regression model concerns the social behavior in the platform. This is about if they look at the posts and what the users do in the platform if they communicate between each other. It is not highly related to fulfilling the competence need. The third dependent variable concerns the gaming mechanics and dynamics in relation to the purchase behavior. We asked if they felt encouraged to buy or spend more time in the platform. Even in this case the independent variable competence did not affect the dependent variable. This can be due to the users feeling bored by the game elements and game dynamics, so they lose interest. It does not challenge their competence.

5.2.2 Autonomy

The independent variable autonomy concerns the users’ motivation of fulfilling the autonomy need. These types of users want to do things freely from any control and their actions are dictated by their interests or values (Mekler et al., 2017; Fisher, 1978). According to our findings in hypothesis 3, the autonomy oriented people are not intrinsically motivated. All the three regression models showed that autonomy was not a predictor in the purchasing intention.

In our questionnaire, we asked them if they follow their curiosity, if they want to try new things, and if being independent is important for them. The gamified experience in the platform does not offer the possibility to the users to follow their own curiosity in the platform and to fulfill the need of autonomy that can intrinsically motivate them. Although some users can be intrinsically motivated by the initial use of the platform. Their curiosity and the possibility to explore and to do how they like may only be their first motivation, then it fades.
The first and second component of the regression model concerns the price and the sales in the platform and the social behavior in the platform. Of course, we can argue that they can have this sense of autonomy when they buy or do small things, but maybe these small things of buying and communicating with the others does not motivate them via autonomy. The users can perceive badges leaderboards and all the game elements as a feedback, that can be considered by them as an external intervention. In fact, factors that can undermine the autonomy of the people are the threats, surveillance, and evaluation. The users in this case may perceive the rewards and leaderboards as an evaluation or surveillance not only from the system but also from the friends in the platform. They lose autonomy and start to not be really interested. Of course, they can be motivated by the possibility of customizing their profile and doing other things, but since most of the things that they do in the platform can be seen by most of the people, it overrides the sense of autonomy. Or, they feel that they can be in a sense manipulated to do something.

5.2.3 Relatedness

The independent variable relatedness “refers to the desire to feel connected to others, to love and care and to be loved and cared for” (Ryan and Deci, 2000. p. 231). In our findings for hypothesis 4, both in our qualitative and quantitative studies people are intrinsically motivated by the need of relatedness. In the qualitative results one of the interviewees claimed his motivation to be from the need for relatedness, as he said that the gamification mechanics provide him more opportunities to interact with the other users. In fact, he buys products and achieves levels to have the opportunity to communicate more. Moreover, he said that higher levels and achieving more badges not only gives him the possibility to have more friends and higher visibility with his friends, but he also claims that he has a sense of recognition. Moreover, higher levels and presence of expensive items on the profile page encourage others to set up connections with that person by adding to the friend list, chatting, and inviting him to games. This is in line with the earlier researchers. De-Marcos et al. (2014) in their study show that the need for relatedness has a strong impact on a person’s behavior. And, in eLearning studies, according to the researchers the need for relatedness motivates people to cooperate and collaborate with each other. Moreover, the results were positive because people were learning much more when they were involved in a social networking, rather than just simple gamification where there were just rewards, which seemed meaningless to the participants.

In the first regression model where the first dependent concerns the price, relatedness did not affect the dependent variable, while with the second regression model where it concerns the social
behavior the relatedness did affect the dependent. This showed that the platform, in our context, is used as a social media where the people can interact between each other, where they meet people who have the same interest, where they can discuss and ask an opinion about a product. Moreover, players use products for a longer time because they are influenced by their friends. Although in the third regression model where the dependent variable concerns the game mechanics and dynamics in relation to the purchase intention people are not encouraged to spend money and time for collecting badges levels and customizing their profile. This is not in line with the qualitative results where the two users like to buy the items and are intrinsically motivated spending a large amount of time. This can be due to the fact that the two interviewees are heavy users and the sample of our population are not.

5.3 Ability

Ability is composed of brain cycle, time, and money. Income and the price play a huge role when it comes to what people want to consume. Both interviewees showed concerns for time and money. They both had sufficient income and enough time to spend on the platform, but even so, they showed concerns about the prices on the games and preferred to buy products during the sales period to save money. The quantitative studies confirmed what was said in the interviews. Money is the capability of a person to buy. If they can afford or not is very important especially if we take into account that we are speaking of purchase intention. The money can be a kind of a barrier for the consumers. While time at the same time was considered very important since people have a limited amount of time to spend on gaming.

Also, the brain cycle variable is considered to be important. Understanding how to gain the different game elements is important. When it is easy to use and to understand they most likely are going to understand the perceives usefulness. People who understand how the system works will benefit from them. In fact, acquiring new badges and the different game mechanics can give to them some benefits such as items that can be used in the game. Or, for example, if they do not know how the social aspects work they are not able to communicate.

These three variables are all important. Looking deeper in the three regression models. The first regression model where the dependent variable concerns the price in the platform, there was no relation between the different variables. This can be due to the construct of the dependent variable,
since the questions are quite heterogeneous and they are not measured properly. While in the second regression model where the dependent variable concerns the social behavior, only brain-cycle showed to affect the behavior, while in the third regression where the dependent variable concerns the gaming mechanics and dynamics in their relation to the purchasing intention time and Money positively affected the purchasing intention.
6. Conclusion

This chapter starts with the conclusion of the study based on the theoretical framework and the results of both qualitative and quantitative research. Then the managerial implications are presented. Finally, the limitations and suggestions for future studies are given.

6.1 Main conclusion

This study has the aim to answer to the research question “how does gamification influence consumer purchase behavior on a digital retailing platform?”. We are going to answer to this research question with the use of the Fogg behavioral model.

According to our findings gamification has the ability to influence its users first of all by prompting the motivation of the users. The creator of the platform first of all uses the rewards (badges, leaderboards) as a mean to incentivize the extrinsic motivation of the users and in the same way it is able to motivate them intrinsically. Especially creating a gamified environment where the users are able to fulfill their intrinsic need of relatedness. According to the findings both intrinsic and extrinsic motivation promote the purchase intentions of the users. Although the users with relatedness need are intrinsically motivated. Competence need and autonomy oriented people in this case are not intrinsically motivated according to our quantitative studies while in the qualitative one there is evidence that they are motivated.

The other factors that have the same importance for influencing the users are the fact of making the gamified system and the related activities easy to understand. In fact, the more they understand what are the mechanisms, the better it will be. Another major factor is the time. The users should have time to spend in the platform for enjoying more. The creators of the gamified platform should first of all make it easier to understand and most important they should make it affordable for each kind of consumer. The income and the prices can be a barrier and in a gamified environment the users should be able to enjoy even without having major resources.

6.2 Managerial implications

This study offers some implications for managers and companies that would like to gamify a service. Our study showed that the creators should be able to design a gamified system where they have to prompt both intrinsic and extrinsic motivation. At the same time, they also should take into
account other factors and in this specific case make it affordable for each user to be involved in the gamified system (if it is in the retailing platform). Be conscious that in the online retailing the users differ a lot in terms of age, gender, income and work so the time that they can spend can be relevant if they want to influence them. In the same way, they should make understandable to the users how the system and the different mechanics and dynamics are implemented. Gamification can be beneficial if developed properly and can in a sense built a loyalty relationship with the users.

6.3 Limitations of the study and suggestions for future research
The greatest potential weakness with this study is how the dependent variable is measured in the quantitative analysis. The wording of the questions is potentially tautological, meaning that there is a risk of circular reasoning between the dependent and independent variables. For example, the independent variable of relatedness has questions about liking to be social within the latent construct. Then, the dependent variable has a question about preferring to play with friends than alone. Though difficult to judge, this could be the underlying reason for why H2 and H3 were insignificant. Most certainly there were unidimensional issues with the dependent variable, so for future research it is imperative to validate a better scale for purchase intention or behavioral outcomes of gamification.

The theoretical background could be further extended with theories based on purchasing behavior. This way the real value seen by customers can be easier to identify and incorporate into the methodology. Another limitation to the study is the fact that we choose snowball sampling, so results may not be replicable.
7. Bibliography


Fishbein, M. and Ajzen, I. (1975), Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research, Addison-Wesley, Amherst, MA


Appendixes

Appendix 1

Introducing questions
Do you use Steam?
For how many years have you been on Steam?
How much time do you spent on the platform on average per day?
What is your attitude towards collecting badges and achievements?
What is your opinion on level grinding?

Ability
What is your income?
Do you have enough free time to spend on Steam?
Do you think that it is difficult to understand how to collect and achieve the different badges, cards, etc?

Motivation
Why do you think people collect cards, badges and virtual items for the customize profile?
What is the purpose of higher profile levels?
Do you find the collectibles mentioned above useful for playing games? Do you find the process of obtaining them fun?
Does Steam achievement system motivate you to beat challenges in games?
How do you think Steam affects your social interaction with other players?

If you had to choose between two platforms that provide the same game and the same price, would you choose Steam or another one? What traits should another platform have in order to be chosen by you?
Are the different game elements encouraging you to be more loyal or are encouraging you to buy games that now you don’t even use?
Appendix 2

Survey

We are students of Uppsala University and we are conducting a research on gamification mechanisms of Steam platform. The data we are collecting will be used to analyze users' preferences and the impact of gamified elements. The survey is completely anonymous, it should take you approximately 5 minutes.

SURVEY

Gender:
- Male
- Female

For how long have you been using Steam?

What is your age?

How many days per week on average you use Steam?

How many hours do you spend using Steam per day?(Browsing steam, playing games etc...)
- Less than 1 hour
- 1 - 4 hours
- 5 - 8 hours
- More than 8 hours

Please, rate how much do you agree with each statement on a scale from 1 to 7, where 1 = totally disagree, 7 = totally agree.

The process of gaining levels was easy to understand
The process of crafting badges was easy to understand
The process of customizing profile was easy to understand
I can buy new thing for customizing my profile
I can afford spending money to achieve the level I want
I can spend as much time as I want on crafting badges
Please, rate how much do you agree with each statement on a scale from 1 to 7, where 1 = totally disagree, 7 = totally agree.

Sales encourage me to buy more games

The opportunity to customize my profile encourages me to buy profile customization items.
The opportunity to customize my profile encourages me to spend more time on Steam
The levelling mechanism encourages me to spend money on Steam
The levelling mechanism encourages me to spend more time on Steam
I follow activities of my friends on Steam (posts, updates, news feed, etc)
I play games with my friends rather than alone
The opportunity to craft badges encourage me to play games on Steam.
At least one of the Steam game elements (levels, badges, etc) encourages me to keep using Steam.
Prices on games is the decisive factor for me to use Steam.

Please, rate how much do you agree with each statement on a scale from 1 to 7, where 1 = totally disagree, 7 = totally agree.

Interacting with others is important to me.
I like being part of a team.
It is important to me to feel like I am part of a community.
I enjoy group activities.
It is important to me to follow my own path.
I often let my curiosity guide me.
I like to try new things.
Being independent is important to me.
I like defeating obstacles.
It is important to me to always carry out my tasks completely.
It is difficult for me to let go of a problem before I have found a solution.
I like mastering difficult tasks.
I like competitions where a prize can be won.
Rewards are a great way to motivate me.
Return of investment is important to me.
If the reward is sufficient I will put in the effort.