

**T.C.  
ISTANBUL AYDIN UNIVERSITY  
INSTITUTE OF GRADUATE STUDIES**



**THE INFLUENCE OF GAMIFICATION ON CONSUMERS' ATTITUDE  
AND INTENTION TO PURCHASE FAST MOVING CONSUMER GOODS  
(FMCG)**

**THESIS**

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**Department of Business  
Business Administration Program**

**August 2020**

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**August 2020**

## **DECLARATION**

I hereby declare with respect that the study “The Influence Of Gamification On Consumers’ Attitude And Intention To Purchase Fast Moving Consumer Goods (Fmcg)”, which I submitted as a Master thesis, is written without any assistance in violation of scientific ethics and traditions in all the processes from the Project phase to the conclusion of the thesis and that the works I have benefited are from those shown in the Bibliography. (.../.../20...)

**Kaouther DHAHAK**

## **FOREWORD**

First and foremost, I would like to express my endless thanks and gratitude to Allah for helping me to find patience and strength within myself to complete this thesis.

I would also like to thank my parents, siblings and my grandparents for always supporting me, encouraging me and for always believing in me. Without them, I wouldn't be able to finish this work.

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I would also like to express my gratitude and respect to my supervisor Assist. Prof. Dr. Farid Huseynov for all his support, guidance, encouragement and help during the entire phase of my research work.

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**August, 2020**

**Kaouther DHAHAK**

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## **ABBREVIATIONS**

<b>AGFI</b>	: Adjusted Integrity of-Fit Measurement
<b>AMOS</b>	: Analysis of a Moment Structures
<b>AVE</b>	: Average Variance Extracted
<b>CFA</b>	: Confirmatory Factor Analysis
<b>CFI</b>	: Competitive Fitness Index
<b>CPG</b>	: Consumer Packaged Goods
<b>CR</b>	: Composite Reliability
<b>FMCG</b>	: Fast-Moving Consumer Goods
<b>GFI</b>	: Goodness-of-Fit statistic
<b>MSV</b>	: Maximum Shared Variance
<b>NFI</b>	: Normed Fit Index
<b>RMSEA</b>	: Root Mean Square Error of Approximation
<b>SEM</b>	: Structural Equation Modeling
<b>SMC</b>	: Squared Multiple Correlations
<b>SPSS</b>	: Software Package for Social Sciences
<b>SRMR</b>	: Standardized Root Mean Square Residual
<b>TAM</b>	: Technology Acceptance Model
<b>VIF</b>	: Variance Inflation Factor

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# THE INFLUENCE OF GAMIFICATION ON ONLINE CONSUMERS' ATTITUDE AND INTENTION TO PURCHASE FAST MOVING CONSUMERS GOODS (FMCG).

## ABSTRACT

In the world of business, gamification is considered to be a quick-rising technique, with numerous organizations embracing gaming techniques and game-style rewards to grow customer interest and engagement and influence customer's attitude toward their brands. This study has investigated the factors of gamification influencing online customers' attitudes and intentions to purchase fast moving consumer goods (FMCG). This study presents a research model based on the Technology Acceptance Model (TAM) and previous empirical studies. There are seven factors in this model which are perceived ease of use, perceived usefulness, perceived enjoyment, perceived social influence, perceived trust, attitude and intention. Four out of seven factors are independent variables and attitude is mediator variable in the proposed research model. This study used quantitative research techniques and study data was collected from 200 participants who downloaded the gamified Oreo application, played with the app for certain duration, and later filled the study questionnaire. Collected data were analyzed with confirmatory factor analysis (CFA) and structural equation modeling (SEM) in AMOS statistical software. In this study, it has been found that perceived usefulness, perceived social influence, and perceived enjoyment positively influence attitude. However, it has been found that perceived ease of use does not influence attitude and perceived usefulness does not influence purchase intention. Trust and perceived ease of use have been found to positively influence perceived usefulness yet perceived enjoyment has not been found to influence perceived usefulness. Attitude toward the brand also mediates the relationship between Perceived Usefulness, Social Influence, Perceived Enjoyment, and Purchase Intentions. These variables not only positively influence Attitude but also positively and indirectly influence Purchase Intention through Attitude.

**Keywords:** *Gamification, FMCG, TAM, Brand attitude, Purchase intention, Trust, Perceived usefulness, Perceived ease of use, Perceived enjoyment, Perceived social influence.*

## OYUNLAŖTIRMANIN TKETİCİLERİN HIZLI HAREKETLİ TKETİCİ MALLARI SATIN ALMA TUTUMU VE NİYETİ ZERİNDEKİ ETKİSİ (FMCG).

### ZET

İŖ dnyasında, oyunlaŖtırma mŖteri ilgisini ve katılımını artırmak ve mŖterilerin markalarına karŖı tutumunu etkilemek iin oyun tekniklerini ve oyun tarzı dlleri benimseyen ok sayıda kuruluŖla birlikte hızla ykselen bir teknik olarak kabul edilir.Bu alıŖma, evrimii mŖterilerin hızlı tketim malları (FMCG) satın alma tutumlarını ve niyetlerini etkileyen oyunlaŖtırmanın faktrlerini araŖtırmıŖtır.Bu alıŖma, Teknoloji Kabul Modeli'ne (TAM) ve nceki deneysel alıŖmalara dayalı bir araŖtırma modeli sunmaktadır.Bu modelde Algılanan Kullanım Kolaylıđı, Algılanan Fayda, Algılanan Keyif, Algılanan Sosyal Etki, Algılanan Gven, Tutum ve Niyet olmak zere yedi faktr vardır.nerilen araŖtırma modelinde yedi faktrden drd bađımsız deđiŖkenlerdir ve arabulucu deđiŖken olarak Tutum yer almaktadır.Bu alıŖmada nicel araŖtırma teknikleri kullanılmıŖ ve alıŖma verileri oyunlaŖtırılmıŖ Oreo uygulamasını indiren, uygulama ile belirli bir sre oynayan ve daha sonra alıŖma anketini dolduran 200 katılımcıdan toplanmıŖtır.Toplanan veriler dođrulayıcı faktr analizi (CFA) ve yapısal eŖitlik modellemesi (SEM) ile AMOS istatistik yazılımında analiz edilmiŖtir. Bu alıŖmada Algılanan Fayda, Algılanan Sosyal Etki ve algılanan Keyifin Tutumu olumlu ynde etkilediđi bulunmuŖtur.Bununla birlikte, Algılanan Kullanım Kolaylıđının Tutumu etkilemediđi ve Algılanan FaydanınSatın Alma Niyetini etkilemediđi bulunmuŖtur. Gven ve Algılanan Kullanım Kolaylıđının, Algılanan Faydayıolumlu ynde etkilediđi bulunmuŖtur, ancak Algılanan Keyifin Algılanan Faydayıetkilediđi bulunmamıŖtır.Markaya ynelik Tutum aynı zamanda Algılanan Fayda , Sosyal Etki, Algılanan keyif ve Satın Alma Niyetleri arasındaki iliŖkiye aracılık eder.Bu deđiŖkenler sadece Tutumu olumlu etkilemekle kalmaz, aynı zamanda Tutum yoluyla Satın Alma Niyetini olumlu ve dolaylı olarak da etkiler.

**Anahtar Kelimeler:** *Gamification, FMCG, TAM, Marka tutumu, Satın alma niyeti, Gven, Algılanan fayda, Algılanan kullanım kolaylıđı, Algılanan keyif, Algılanan sosyal etki.*

## **1. INTRODUCTION**

In recent years, technology has been increasingly harnessed for motivating, engaging and supporting people towards different individually and collectively beneficial behaviors. Globalization has increased stiff competition for companies; especially it's become a challenge for marketers to attract new customers and engaging existing customers toward their products and services. For this, marketers have adopted new strategies based on innovation and creativity concept which are unconventional in global business and turned away from traditional marketing strategies to digital marketing strategies. Gamification is one of the most popular developments in this area where its concept and its mechanics are quickly emerging in marketing business.

Today our reality and lives are increasingly game-like, not only because games have become a pervasive part of our lives, but also because activities systems and services are increasingly gamified. Gamification mechanisms and its concept itself in non-gaming environments have become a rapidly emerging practice in the business world, particularly in marketing. Although in its beginning, the transfer of gamification techniques and dynamics are found to be easy from their origins of gamification software to the commercial world.

The Gamification concept has been used to make a change in user behavior in many settings and to increase their motivation and engagement over the past fifteen years. The gamification was implemented in various industries by many companies to engage customers as the companies Pokémon GO and Nike have done or to motivate its employees as the Bluewolf company has done.

Gamification has not just stopped there, it was used in the education system and medical teaching and it was even implemented in some FMCG filed. We've been seeing lately many FMCG industries using games to attract their customer, some of them used look like game on social media, and some other created application game for their brands, like for example Nutella, Starbucks and Coca-Cola.

## **1.1 Statement of the Problem**

Statement of the research has been decided after noticing the growth of gamification as a marketing strategy. According to Gartner Research (2011), in the world of business, gamification is considered to be a growing practice, which has an increasing number of organizations embracing game-style rewards and gaming techniques to grow customer engagement. The adoption of this structure and the design element of games with the intention of advising managerial objectives create the same feeling and experience that participants would feel when they are playing a real game (Werbach and Hunter 2012). Gamification has already been recognized in many and different fields such as education, business, and social networks. However, it is still not that popular within FMCG field. In our opinion, gamification can help to solve problems that brands and customers face in the FMCG market.

Fast-Moving Consumer Goods is known to have a wide variety of products and this makes the competition between brands very difficult, which forces them to invent new marketing strategies to promote their products and stay in the running. In another hand, many customers stick in the same brands and never attempt to try a new one, even if it has gained recognition in the area. However, with the creation of gamified games for a well-defined product, the brand creates a link with the consumer, because while playing he or she create slowly a feeling of familiarity and belonging with the product, which pushes him or her instinctively to choose the brand logo in a department store.

## **1.2 Purpose of the Study**

The aim of this study is to investigate the effect of gamification on customer purchase intention and also understand how it influences consumers' attitudes toward FMCG platforms. To meet this end, an Oreo application was used with a questionnaire as an instrument of evaluation; data were obtained from citizens living in Turkey and then were analyzed for the finalization of results. This study's findings will assist the FMCG industries to better understand the factors that affect customers' attitudes toward their brands. And also to help them develop a well-prepared gamification marketing strategies that could grow their

businesses in the future. Some points are also recommended to improve customer satisfaction in order to develop their businesses.

### **1.3 Research Questions**

In accordance with the procedure referred above, principal questions cited below will be answered in this study:

Q1. What are the fundamental factors that influence gamification and its effects on consumers' purchase intention and attitude towards the FMCG brands?

Q2. How does attitude mediate the relationship between gamification's factors and purchase intention?

### **1.4 Thesis Outline**

There are six chapters in this thesis:

- Chapter 1: In the present chapter the study background involving the general overview of the influence of gamification and its effects on consumers' attitudes and purchase intention in the marketing context will be described, followed by the problem statement with a focus on the study. After, the importance of the research, objectives of the study, and study questions will be explained.
- Chapter 2: The first part includes different definitions of key terms that are used in this research such as Gamification, Brand attitude, FMCG. The associated issues of these key terms are presented for discussion, like the features of gamification, challenges, as well as the factors that affect the customer's purchase intention. The second part includes different numbers of theories and several researchers' studies that have been conducted, analyzed, and discussed in this field.
- Chapter 3: In this chapter, the development of a conceptual framework and the formulation of hypotheses will be given and the related factors which have been taken into account during this study will be discussed.
- Chapter 4: The purpose of the current chapter to suggest methodology research for the study that was employed to achieve the objective and

goal of the present thesis. Also, procedures, research design, survey tools, sample study, statistical techniques, and data collection were included.

- Chapter 5: With regard to data analysis, the results and findings acquired from a survey questionnaire, then analyzed employing tools and necessary statistical methods, are provided.
- Chapter 6: The last chapter presents an outline of the study results and thus presents responses to questions of the research. An interpretation of the collected data and a relevant results discussion from different studies related to with this research field were provided as well. Finally, for the last part, a conclusion of this research, management implications, possible suggestions from results in this area as well as research limitations are provided.

## **2. LITERATURE REVIEW**

### **2.1 Gamification**

The term Gamification is not actually a new term, it has emerged in the early 2000s (Marczewski, 2013), but it started to receive a lot of attention just in the early 2010s (Deterding et al., 2011; Werbach and Hunter, 2012). Gamification has been defined as "the use of game design elements in non-game contexts" (Deterding, Khaled, Nacke & Dixon, 2011). As stated in the definition of Seaborn and Fels (2015), gamification aims at a gameful experience, however, in a context other than of the game and in order to motivate a particular behavior or a relevant idea in the real world. Also, Deterding et al. (2011) add that the gamification concept is similar to the concept of serious games but has other purposes than the normal anticipated use as part of an entertainment game. Indeed, gamification was born thanks to the incredible success games.

Games have been used throughout history and have frequently entertained, motivated and engaged people in some way for centuries. On the surface there may be a great similarity between games and gamification, as the sharing of structural elements, but an important distinction lies in the different purposes of their use. A game usually forms an end in itself; gamification forms a means to an end.

Taking games "building blocks" and apply them in real-world situations, frequently aiming to motivate particular behaviors inside the gamified situation is seen as the central idea of gamification. The gamification may be employed in different contexts and it is viewed as a promising and innovative concept as several authors stated (Zichermann and Cunningham, 2011; Werbach and Hunter, 2012; Zichermann and Linder, 2013).

Gamification has been seen as a benefit to both business companies (improving viscosity and customer loyalty, and therefore sales) and customers (as a legitimate means of adding value to a service). As a result, gamification quickly



became a major marketing trend. Hamari (2013) explains that gamification is a new kind of marketing idea, where complete games are seen as a method adding value to web pages of the product. In addition, when the service provider's goal is education, more serious games can be applied for this purpose. Hamari (2013) also argued that loyalty programs with an amalgamation of game mechanisms can provide important benefits to customers, who demonstrate that customer loyalty.

## **2.2 History of Gamification**

Before the creation of industrial civilization, marketers were looking for ways to retain their customers. More than 100 years later, brands are always looking for ways to positively reinforce their buying behavior and commitment. Gamification has been one of the last marketing efforts to produce unprecedented results (Gamification Infographics, 2014). It is difficult to determine when gamification started for the first time, but many say that 1912 is the first appearance of gamification on the mass market(Lloyd, 2014). In 1912, the American brand of popcorn Cracker Jack began to include a free price in each bag. Although it is not gamification in the modern sense of the term, the use of amusement and a reward that can be obtained may have been the unintentional birth of gamification(Lloyd, 2014).

That unintentional birth kept going for other years like in 1973 where Charles Coonradt wrote "The game of work" to address the issue of declining productivity in the United States. He noticed that productivity was failing as sales of recreation meanwhile sports equipment was rising. At that point, Coonradt suggested that fun-and-games might be the answer to the spiny problem of employee engagement. In that year the power of games to engage employees got a lot of recognition (Shannon, 2019).

The first academic papers and commercial books around gamification were discovered during the 1980s, they were specifically aimed at the gamification of learning where Thomas W. Malone wrote a book titled "What Make Things Fun to Learn". Also, at these years, they tried to create better interfaces for lessons from computer games(Lloyd, 2014).

In the 1990's computers advanced and gamification techniques began to enter the classroom, games such as Math Blaster and The Incredible Machine were presented to children to great effect. However there for a lot of criticisms saying that the games themselves were too hard or were too repetitive focused on a small set of skill(Lloyd, 2014). Gamification is born in the year 2002 where Nick Pelling coins the term "Gamification" helping us defining the engagements and research that have and will continue to take place. But it took three years before adapting the term. The year 2002 also saw the creation of the Serious Games Initiative (SGI) (Growth Engineering, 2019).

2005 was the year where the first modern gamification was created. Rajat Paharia founded Bunchball, a platform designed to increase engagement on websites by adding a layer of game mechanics where organizations can create a gamified process using pre-made elements such as points, leaderboards and badges (Shannon, 2019).

2009 The launch of Foursquare, an application that allows users to search and discover new places, was both a social tool and an excellent example of gamification, and as an award for users' achievements badges were given (Growth Engineering, 2019).

Gamification became a popular term in 2010; this is mostly due to the increase in interest from the internet and in 2011 San Francisco was the first place ever where the first gamification summit was held, draws about 400 participants. In the same year gamification made it to the Oxford dictionary by being added to its shortlist of the word of the year and defining it as 'The application of techniques and concepts from games to different activity fields' (Lloyd, 2014). Foursquare known as one of the gamified applications that got success and thanks to that it inspired numerous huge companies to leap in the bandwagon of gamification. In 2011 according to M2 Research, global revenue from gamification software, consulting and marketing has reached nearly \$100 million (Lloyd, 2014).

As for 2012, 45,000 people sign up for online gamification course called Coursera by professor Kevin werbach, while Gartner predicts 70% of global organizations by 2014 will have at least one gamified application. But by 2013

Gamification was bigger than expected: 61% of CEOs and other executives surveyed say they take daily breaks at work (Shannon, 2019)

In 2014 customer satisfaction insanely increased -9 out of 10 companies say their gamification efforts have paid off. In 2016 Gamification was recognized and valued and predicted to represent \$ 2.8 billion (Shannon, 2019)

Finally in 2018 Gamification exceeds expectations where in just two years, Gamification's projected market value was more than double that of 2016, worth \$ 5.5 billion (Shannon, 2019)

### **2.3 Game Design, Elements of Gamification**

As Deterding, Dixon, et al. (2011) and Werbach & Hunter (2012) have mentioned, the elements of game design are considered to be the main building blocks for the applications of gamification. Björk, Holopainen (2004) and Kelle, Klemke, and Specht (2013) have added that they are mainly similar to game design patterns. In the context of gamification and games, many authors have suggested collections of elements of repeated game design (cf. Kapp, 2012; Robinson & Bellotti, 2013; Werbach & Hunter, 2012; 2015; Zichermann & 2011; Zichermann & Linder, 2010).Seaborn and Fels (2015) said that game design elements are often interconnected or similar. Different researchers may use various terms in their research to represent similar features. Therefore, it was necessary to review and define each element of the game's specific design for review and categorize it on the basis of its nature (Siaw-Chui., Weng-Wai, 2019). 15 important components were identified by Werbach and Hunter (2012), among them leaderboards, points, badges, avatars.

#### **2.3.1 Points**

Points are the key elements of many multitudes of games and gamified applications (Zichermann & Cunningham, 2011). Points are usually rewarded in a gamified environment for successfully completing specific activities (Werbach & Hunter, 2012, 2015), and they symbolize a numerical representation of the progress of the player (Werbach et al., 2012, 2015). Different types of points may be distinguished, for example, reputation points, redeemable points or experience points, as well as different purposes served by points (Werbach &

Hunter, 2012). There are also one or more numeric points that refer to tokens that users can collect, which they can use them as status indicators, to open access to certain content, or to buy virtual goods or gifts (Bunchball, 2010, Educause, 2011). The concept is relatively simple: perform the task and get points. Afterward a ranking can be created by these points. This is basically an existing list of users with the most points. This kind of friendly competition can be a motivator for other users. One of the most important objectives of the points is to provide comments. The points allow measuring the behavior of the players in the game. Hense et al. (2013) said that they provide continued and instant rewards and feedback.

### **2.3.2 Leaderboards**

Leaderboards indicate high-score tables that indicate an individual's performance compared to other users (Christy & Fox, 2014). Track the status of all players, adding a competitive social item to the application. The players are ranked according to their relative success by leaderboards, and they are also measured according to specific success criteria (Costa, Wehbe, Robb & Nacke, 2013). As such, Crumlish and Malone (2009) stated that in particular activities the leaderboard may identify who is the best performer, therefore they are competitive indicators of progress that link the performance of the player to other players' performance. Leaderboards can be very effective in encouraging users to keep playing, but their use could also be restricted. Some applications won't lend themselves to the leaderboard for confidentiality reasons such as credit card rewards or patient health. For others, the presence of a leaderboard with seemingly inaccessible high scores may discourage the continuation of playing the game. Yet, the motivational potential of the leaderboard is mixed. Werbach and Hunter (2012) consider them as an effective motivator if only a few points remain to the next level or position, but as demotivators, if players find themselves at the bottom end of the leaderboard. Competition from the leaderboard can lead to social pressure to increase the level of player participation, and therefore can have an impact based on participation and learning (Burguillo, 2010). However, it should be noted if competitors have almost the same level of performance, these positive competition effects are more probable (cf. Landers & Landers, 2014; Slavin, 1980).

### **2.3.3 Badge**

Badges are referred to be visual representations of achievements (Werbach and Hunter, 2012) and can be gained and collected in the gamification environment. These badges also are known to be appealing and have a beautiful visual representation of what the player has accomplished. They emphasize the achievements of the players, and symbolize their merits (Anderson, et al., 2013) and clearly demonstrate their achievement of levels or goals (Antin & Churchill, 2011). Earning a badge may depend on a particular number of points or specific activities in the game (Werbach & Hunter, 2012). There is infinity of badges functions, which serve as goals, like when the prerequisites of winning them are known to the player, or they serve as virtual status symbols (Werbach & Hunter, 2012; Zichermann & Cunningham, 2011). Like points, badges also provide feedback, where they indicate player performance (Rigby & Ryan, 2011). Generally, badges do not have narrative meaning and their collection is not mandatory. Although, Wang and Sun (2011) stated that badges can influence the behavior of players, leading them to choose specific routes and challenges in order to win the badges associated with them. In addition, the badges symbolize an individual's membership in a group of owners of this special badge, they can also apply a social influence on the players and the co-players (Antin & Churchill, 2011; 2013), in particular, if they are rare or difficult to earn. It is common to represent achievements in the form of badges or trophies in online games. Badges are rewards and optional goals that are outside the scope of a service's core business. At the systemic level, a badge includes a signifying element (the visual and text markings of the badge), rewards (the earned badge) and the execution conditions that determine the terms for obtaining the badge. (Hamari, 2013, Hamari & Eranti, 2011, Jakobsson, 2011, Montola et al., 2009). Giving badges as a reward has also become a key element in the "gamification" of online social media experiences. Social systems like Wikipedia, Foursquare, and Stack Overflow have made badges as a way to motivate and engage users. It is defined by (Antin & Churchill, 2011) as "a game element commonly used in gamification and one of the most discussed in the earlier literature is a badge, also known as an achievement or trophy.

### **2.3.4 Levels**

In games, levels are often defined by missions or storylines. Once you complete one, you get access to the next, more difficult storyline. Curiosity and desire to achieve/conquer make levels motivating (Carly,2018). A game level is a part of the game. In general, the player has to achieve particular goals to complete a level of gameplay or he has to perform a specific task to move to the next level. A good game offers a level of progressive difficulty; as the performance of the player often changes over time depending on the performances required by the game. Several activities provide experience points in the game. These points accumulate and allow increasing the levels when the experience criteria of the next level are fulfilled. In the user's profile, the user can see his actual level and the number of experience points needed to move to the next level. The levels do not give any additional functionality to the platform. They are just used as a status symbol, where players can see the levels of other users. Levels also play the role of an approximate indicator of the user's activity around the platform, as most activities give the user more or less experience points.

### **2.3.5 Achievements**

In recent years, the word achievement has become common in the field of gaming. The term presents a task that the player must complete and to unlock the achievement, he has to be recognized for his efforts (Luca Galli, Piero Fraternali, 2014).Nowadays is difficult to find games with empty of reward mechanism or motivation, which represent the reason for the increasing popularity of achievement's concept.; even in gamification (Deterding et al., 2011), In other words, using game mechanics and game design techniques to improve non-game contexts. As Evans et al. (2011) said the achievements play an essential role and are used to improve learning or build customer loyalty. Achievement System, also known as the Reward System, and it is defined as one of the entertainment platform's components. It is employed to propose, present, manage and share achievements, globally and across multiple gaming or entertainment systems. It provides developers with a group of functions and APIs to identify game tasks that may be turned their games into achievement; moreover, it provides players with a personalized statistical information panel summarizing the history of their games, also known as player profile, as in the

games every achievement the player has done will be recorded. Hamari and Eranti (2011) have as well-defined achievements as "goals in the reward or achievement system (a subsystem different from the main game), whose realization is achieved in other systems through events and activities (usually in the main game). The description mentioned points out the division between both the game and the system of achievement, but leave out aspects such as to separate between the description of achievement and prize related to its accomplishment, the achievement's purpose and the centrality of the role of player.

### **2.3.6 Challenges**

Challenges are known to last for a certain period of time, therefore there are called "timed events" and they also include an exercise task that needs to be completed. Challenges are not required for participation; each group member can choose to join or not the challenge. In other words, when a challenge is created, any member of the group can participate. When the challenge is created, it cannot begin immediately; For example, to provide a fair chance for all players to notice a challenge and plan accordingly to it, a challenge can be created one week before it starts. During the challenge, a leaderboard is appeared, listing in order all participants' performance.

Unconfirmed results are a challenge due to variability based on the user's actions, multiple goals, hidden and random information (Wilson et. al, 2009). The challenge is connected with both intrinsic motivation and motivation to increase competence and student effectiveness (R.W. White, 1959). Indeed, without a challenge seen as worthy; the games are simply not enjoyed (Juul, J, 2009).

### **2.3.7 Meaningful stories**

Meaningful stories are a part of game design elements that do not relate to the performance of the player. A gamified application can be integrated into the narrative context where it contextualizes the activities and characters of the game and gives them meaning beyond the simple quest for points and achievements (Kapp, 2012).

Kapp (2012) added that a story can be communicated through the title of a game (for example, Space Invaders) or a complex storyline typical of current role-playing video games (for example, the Elder Scrolls series). Narrative contexts can be oriented to real non-game contexts or serve as analogies to real-world settings. They can enrich boring and untimely contexts and, as a result, inspire and motivate players, especially if the story fits their personal interests (Nicholson, 2015). As such, stories also play an important role in gamification applications, where the real-world activities' meaning can be changed by them just by adding a narrative "overlay", like for example to be hunted by running zombies.

### **2.3.8 Quests**

Quests or missions demand users to finish certain exercise-related tasks. Unlike challenges, quests are accessible to all users, whether they are group members or not. When a quest is completed, the user takes a reward for a certain number of points. For the user, there are always various quests available. For new users or beginners, the quests are easier and can be completed quickly because they do not require much exercise. However, as the user progresses, the quests become more difficult and require much more effort and prolonged durations. When a quest is completed, the number of points that the quest provides is added to the number of points of the user. Also, the quest goes to the completed quests list and the player cannot complete it again. Quests appear in the activity thread in other features.

### **2.3.9 Performance graphs**

Performance graphs provide information about the performance of players and compare it with their previous performance or score achieved during a game (Sailer et al., 2013). Thus, unlike leaderboards, performance graphs do not compare the performance of a player to other players, but rather evaluate the player's own performance over time. Unlike the social reference norm of leaderboards, performance graphs are based on the reference norm of an individual. By graphically showing the player's performance over a period of time, the player focuses on improvements and fostering a mastery orientation toward goals. As noted by Dweck (1986), Nicholls (1984) and Sailer et al



(2013), motivation theory assumes that it promotes a mastery orientation and is especially beneficial for learning.

### **2.3.10 Avatars**

Avatars are players' visual representations inside the game or gamification environment (Werbach and Hunter, 2012). Usually, the player chose them or even creates them (Kapp, 2012). Avatars are created in different ways, they can be merely like a simple pictogram or they can be animated in a complex way, in the form of three-dimensional representations. Werbach and Hunter (2015) said that avatars' main formal exigency is that they unequivocally identify players and distinguish them from other human-or computer-controlled avatars. Annetta (2010) added that to be part of a community in a cooperative game, avatars give the possibility to players to create or adopt new identity.

## **2.4 Motivation of Gamification**

Gamification is seen as a motivational tool to promote user engagement. Indeed, the key to gamification success is engaging people emotionally and motivating them to achieve their goals. Gamification involves the addition of game elements such as points, levels, badges, rankings and other items that are considered an external reward mechanism, as they are used to provide positive reinforcement that can motivate the behavior of a user.

In general, there are two kinds of human motivation: extrinsic and intrinsic.

Extrinsic motivation refers to behavior motivated by an external factor that pushes the person to do something in the hope of winning a reward, such as money, fame, grades or praise (Denny, 2014). In this case, you engage a behavior not because you like it, or because you find it satisfying, but in order to get something in return or to avoid something unpleasant. However intrinsic motivation refers to behavior motivated by internal rewards like enjoyment, positive feelings (Denny, 2014). In other words, the behavior of the person is motivated by his inner desire to do something that is naturally satisfactory to him. The individual sets his own goals, creates expectations and the reinforcement is achieved by achieving the goals he has set himself. Deci, Koestner, and Ryan (1999) considered that intrinsic motivation was believed to

be more desirable if it gives better learning outcome results. Since the gamification marketing process typically is engaged to provide users information about products or brands, it encourages participants to learn more and to join or pursue action - in this case, they get engaged in gamification because of its effects. Consequently, people have a strong desire for the activity itself and appreciate it immensely when they are intrinsically motivated.

Two fundamental theories of self-motivation were directed at understanding the psychological aspects associated with engagement behavior or participation. The 16 fundamental desires theory (Reiss, 2000) has been used to comprehend inborn human desires as well as the foundations of collaborative engagement in business, thus giving a useful tool for the analysis and prediction of human behavior, including order, power, curiosity, economy, independence, honor, idealism, acceptance, status social contact, revenge, family, romance, eating, tranquility and physical activity. In addition, the theory of self-determination (SDT) by Deci & Ryan (1985) has defined a motivational model that explains the initiation and regulation of the human behavior. It acknowledges the environmental and social conditions that influence personal will and commitment to activities. This theory combines as well the cognitive motivations and psychological needs that describe the need for competence, autonomy, and relationships. Therefore, it can be noted that a close association between social aspects, cognitive factors, and people basic desire were modeled by these two theories. In the gamification marketing context, if cognitive motivations and social needs are intrinsically linked to "play", users can be infected by these behavioral or attitudinal factors. Moreover, in game studies, it is clear that emotional and motivational engagement within the game may be enormous. The gamification fundamental ideas are not just to use these motivational games power for entertainment goals of the game itself, but to use it for other purposes as well. As several studies have shown, gamification systems are nowadays used for various purposes such as influencing attitude or behavior, promoting safe driving behavior, motivating physical training, improving the quality of life and improving educational learning. (e.g. McGonigal, 2011). Though gamification is frequently seen as a powerful tool to

enhance motivation, it is rare to research and investigate the motivations of gamification, especially for marketing purposes.

## **2.5 Effects of Gamification**

With regard to the gamification effects, as reported by precedent studies, brands exposition within video game would have an impact on players' memory of the brand (Grigorovici & Constantin, 2004, Nelson, 2002). Additionally, the interactions of marketing or advertising may be categorized into two contingent contexts: active and negative interactions. The majority of TV shows and movies are rated in negative interactive media, which are quite hard to get instant responses from the public. Lee and Faber (2007) stated that video games are considered to be interactive media since players have the ability to interact and they are required to have willing responses, interactions, and actions. As Acar (2007) said, people in their nature are attracted, more interested, and even fascinated in interactions that are active than in the interactions that are inactive such as games. Gamification with multimedia may as well present particular features of interactivity between sensory immersion and users that makes it more alive and closer to the public than other media. In addition, it is more efficient and easier for marketers to produce and put targeted brands in the process. Gamification is considered to be an innovative platform for incorporating brand messages compared to traditional marketing tools. Xu (2010) said that gamification can be considered as an enjoyable and fun way to make consumers accept brands. Moreover, In the middle of the process, gamification may allow brand message marketing to be repeated. In comparison with traditional marketing tools, there is no time limit for gamification in branded services or products. Usually, other traditional media are considered to be a one-time distribution, this one of the reasons why most people are less likely to be exposed to the marketing message. Moreover, just like games, gamification has interactive entertainment. Through strong interaction, gamification may strengthen the belonging sense and enhance brand identification. Herrewijn and Poels (2013) said that when interacting in the gamification process with the system or with other participants, users will get

different kinds of emotions and experiences which will influence indirectly or directly the evaluation of the brand.

People enjoy rivaling with each other, playing and winning games. They could do competitions and get rewards in gamification as well .In general, people appreciate the participating process of competing events that include rewards, even if the prizes are small, virtual, or symbolic.

Gamification applies the game's features in the marketing use after taking all the advantages that the game has. During this process, the willingness of people in competing and gaining rewards could be an incentive to improve their loyalty to service, brand, or product. Gamification is known also for its potential to stimulate the engagement of people, but, it was incorporated into practical research specifically in the context of marketing only by few researchers. A study regarding employees was done that has shown that the work process can be more enjoyable by using gamification and the works when combining games and work, the works tend to be more entertaining and actively engaging. Likewise, the training of game-style usage may as well encourage engagement in work in dynamic environments.

Games-style courses are a popular way of providing training for both individuals and teams as Fletcher and Tobias (2006) have said, indicating that in engaging training, gamification is playing a progressively significant role which makes a high number of companies adopt gamification in the aim of improving their business performance.

## **2.6 Application Fields of Gamification**

The use of gamification has already been recognized in fields such as education, business, social networks and marketing. And it **has been applied to many other different fields such as the medical field. Here are some brief examples:**

### **2.6.1 Gamification in education industry**

Gamification has attracted considerable interest in the education community because of its ability to improve the learning process among students. Some of

the benefits of gamification are that students receive instant feedback, it creates engagement, students become more loyal and attend classes more frequently, it also increases productivity, there are more influence/control over the actions of students with rewards, it increases learning retention, and students are likely to spend more time learning and this makes learning more fun (Alexandru.T, 2017).

In the future, it is expected that gamification will take precedence over the traditional method of learning, leading to problems such as scalability, upgrading of learning modules (Saqib.H, Nurul. N, Fazmidar.N, Mohamad.A, Hannyzurra.A, Nornazlita, H., Ejaz.A, Muhammad.I, 2019).

Alexandru.T (2017) stated that recent surveys have shown that about 80% of students admit that they would be more productive if their academy in which they work or learn is more like a game. He also added that over the past 5 years, more than 350 companies have launched major gamification projects, including many well-known consumer brands.

Credence research (2019) published an article saying that the market for the gamification of education is very competitive due to the continuing need for innovative designs. And because of the diverse nature of learning in different institutions, gamification vendors insist on creating custom gamification applications. Microsoft Corporation, Bunchball, Salesforce.com, GamEffective, Institute of Play, Smart Game Systems and Tata Interactive Systems are among the leading players in the gamification sector in the education sector.

Credence Research (2019) also added in their article that in 2017, North America led a market of gamification in education, which accounted for more than 40% of the total market revenue generated worldwide. The market here is governed by strong adoption of gamification in various sectors. Many educational institutes have shifted towards gamified education in order to ensure an effective learning and participation experience. In addition, the region has a strong penetration of gamified consumer-driven education, further supporting market growth. In the following years, Asia Pacific is expected to show the fastest growth in the market. This can be attributed to the increasing digitization (such as the Internet, tablets, laptops, etc.) in the education sector.

## **2.6.2 Gamification in social media**

The role of gamification in social media marketing is getting more attention, as Dr. Stuart Brown (2009) said in his TEDTALK conference that “The makers of video games have spent more than generations mastering the art of making the products addictive.” He also added that “Now to be able to build loyalty, brands tend to use gamification techniques for their pages of social media and sites”. Bourdieu (1983) and Medler (2011) said that everyone looking to take care of their social capital, users find ways to use the functions of online social networking systems (OSNS) in a fun way to influence the flow of information. OSNS like Twitter, Google, and Facebook are transforming the way people contribute; through diverse design features that are appealing to different types of users. Studies have shown that gamification can increase engagement by 100 to 150%. Noticing this trend, more than 70% of the world's largest companies were expected to experience with gamification at least once last year, and many continue to do so.

In recent years gamification on Facebook has become a strong tendency and offers excellent value for brands. Here is some example of FMCG brands using their social media pages to interact with their clients by making it more fun and in a gamified way:

This game was presented by M&M as a part of their Pretzel marketing campaign. It was on the bases of the logic of eye spying: Facebook users received M&M’s scattered under a big image were requested to discover a tiny pretzel inside. The brand's Facebook page hosts more than 10 million fans and many people choose to interact with their game-based post.

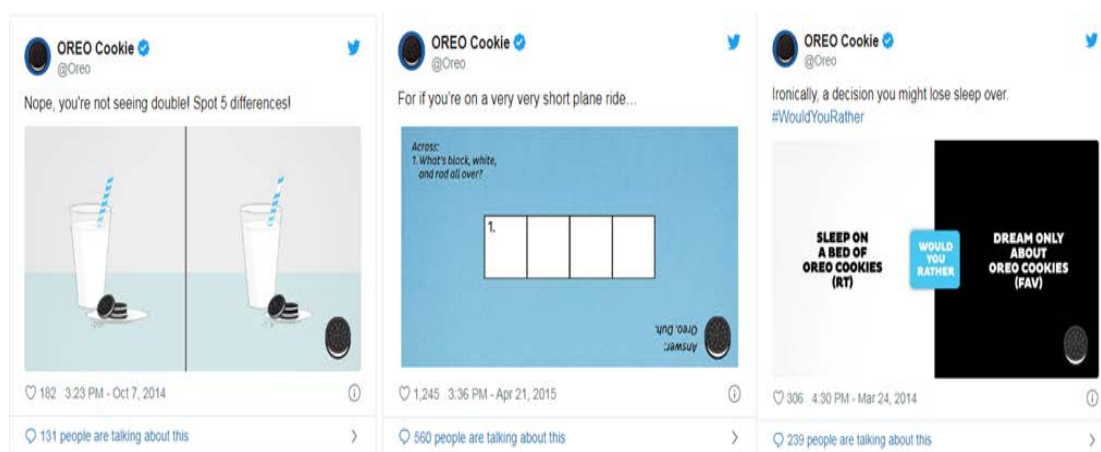
The design and the thinking of the game process were not expensive, but it fastly became viral and brought many goods results especially in commitments terms for the firm, shares, and people's willingness to purchase the Pretzel brand. The campaign has received praise from all over; with a simple game like this, it had about 6200 shares, more than 26,000 likes, and almost 11,000 comments (Dan Virgillito, 2015).



**Figure 2.1:** M&M's Game and Doritos Roulette Challenge

Source: Crane, 2015

Another example on Facebook where Doritos campaign makes its post in game-like way by creating the Doritos Roulette Challenge where Roulette here represents a bag of Doritos chips that is full of spice inside. As mentioned before Doritos used gamification for this chips brand in North America in order to challenge consumers if they dare to snack this new potato chips bag. On just this campaign announcement the response was excellent where the results get over 8000 shares, 1500 comments, and 22,000 likes; and the brand got lots of consumers' videos where they're playing the roulette challenge. This was not a new idea, but the fact that it is oriented towards a market that loved chip flavors has made it a success (Dan Virgillito, 2015).



**Figure 2.2:** Oreo Game Based Concepts

Source: Crane, 2015

Not only on Facebook the use of gamification getting more and more popular, Twitter also started using the game like strategy, back to 2014 used different game-based concepts such as " Spot 5 differences! ", "crossword puzzle" or "Would You Rather" game. All of them received great responses between 182 to 1,245 likes and 131 to 560 comments and so on (Crane, 2015).

### **2.6.3 Gamification in healthcare industry**

Gamification includes the ability to transform patient outcomes by integrating healthy behaviors, by the use of game design techniques, game mechanisms, game styles, or non-game applications like channels. In the healthcare field, applications, treatments and devices are becoming more prevailing, where t help the patient to change his behavior more easily. The gamification procedures in the healthcare industry are still in beta, an educational and training tool that encourages people to engage in activities that lead to health benefits, and mainly applied to health and wellness (Marvella Lit, 2019).

Heraldkeeper via COMTEX (2019) said that gamification of healthcare market is expected to exceed \$ 40 billion by 2024, As is stated by Global Market Insights in a new research that the growing use of social media and Smartphones, together with the growing adoption of gamified models in healthcare sector, will boost industry growth over the expected time frame. Technological advances in the development of games dedicated to wellness, patient engagement and results-based medicine will further boost business revenues. The exercise games segment should grow at a profitable rate due to increased awareness of fitness games and their impact on the brain and human health. The intensive use of many casual games particularly in diabetics and patients with Alzheimer's disease should encourage the growth of the segment. The disease-prevention sector will grow significantly over the expected period of time due to increased motivation among users looking to improve their health.



## **2.7 Fast Moving Consumer Goods**

### **2.7.1 FMCG definition**

Fast-moving consumer goods (FMCG), also known as consumer-packaged goods (CPG), are high-demand products that are sold quickly and at affordable prices. These items are considered to be "fast-moving" because they are quick to leave the store shelves or supermarket since consumers use them regularly. Consumer goods can be described as the products that the average consumer purchase for their consumption. The division of three different categories was set for them which are non-durable and durable goods and services. Durable goods represent the products that last for three years or more, while non-durable goods represent the ones that last less than one year. Fast-moving consumer goods are a wide segment of consumer goods. They fall under the category of non-durable foods because of their direct consumption and their limited period of validity. Almost everybody worldwide uses daily consumer products (FMCG). They are considered to be what consumer buys and referred to as the small scale that people make at the fruit and vegetable stand, the grocery store, the supermarket.

FMCGs can be divided into different categories like packaged food, beverages, cleaning products, cosmetics and toiletries and over-the-counter medications such as aspirin. Consumer goods represent more than half of total consumer spending, but they tend to be low-involvement purchases.

Fast-moving consumer goods characteristics are categorized into two different sections (Ramanuj Majumdar, 2004). Firstly, the characteristics from the marketer's points of view must have worldwide or nationwide distribution networks and fast stock turnover. Must have as well a high volume of sales which means that the products must be sold at a very large quantity and must have a low margin of contribution indicates the selling price minus the variable cost (per unit). The contribution corresponds to the share of sales that are not consumed by the variable costs, and thus contribute to covering the fixed costs.

Secondly, the characteristics from the consumer's point of view that must have short shelf lives and get rapidly consumed. Must be easy to choose and have a

very low price and also must get purchased frequently on daily life bases like bread, toiletries, or milk.

### **2.7.2 FMCG marketing industry**

Since FMCGs have a high turnover rate, the market tends to be very large and very competitive. Several companies among the world's largest companies are competing for market shares in the industry like Unilever, Procter & Gamble, Coca-Cola, Dole, General Mills, and Nestlé, Kellogg's. Companies like these need to focus on marketing fast-moving consumer goods if they want to attract and encourage consumers to buy their products.

For that reason, packaging presents a very important factor in the production process. The logistics and distribution systems usually require secondary and tertiary packaging to maximize efficiency. Unit or primary packaging is essential for the protection of products and their shelf life, and also provides information and sales incentives to consumers. FMCGs are sold in large quantities, making them a reliable source of income. This high sales volume also compensates for the low-profit margins on individual sales.

### **2.7.3 FMCG and gamification**

In recent months, major grocery brands have been striving to make interesting deals with game franchises, online sports organizers and professional gamers (Julia Glotz, 2019). There is a new agreement between the Coca-Cola and Overwatch League of Activision Blizzard. Kellogg's has announced the signature of a groundbreaking three-year contract with the Major League Soccer sports initiative. And P&G's Head & Shoulders has registered for the gaming player RAMZES666 as a new brand ambassador. The interest of grocery stores for games is not new. But it's accelerating. Advertising experts in the fields of gaming and sports report growing interest from non-endemic sponsors (the gaming industry speaks for companies that do not produce games or gaming equipment), largely led by FMCG. And most importantly, this interest is starting to spread beyond the more typical brands of energy drinks and snacks. Julia Glotz (2019) said that their investigation with Harris Interactive indicates that 35% of UK gamers buy food and drink especially for playing video games. This figure grows to 55% for players between the ages of 18 and 24. Industry

experts, such as Alex Beckett, associate director of Mintel Food & Drink; report that FMCG companies are "more and more fascinated by the relationship between gaming and food."As the gaming market has matured, its demographic profile has moved away from the adolescent gamers' stereotype to include older gamers with a lot of disposable income.

## 2.8 Popular Applications using Gamifications

There are many productivity applications, but few use static gamification. Here's a list of different mobile apps that are designed to enjoy, learn, boost the performance and maintain the motivation and productivity by using game mechanisms:

### 2.8.1 Fitocracy

Fitocracy is one of those applications that make a difference in the lives of people looking to be healthier. It was named as the most innovative product in the Health & Fitness category of the Mashable's Innovation Index, after being nominated with WellnessFx,LarkLife, the Nike Plus Running and GymPact app by Sarah Robb O'Hagan, President of the Equinox fitness empire.

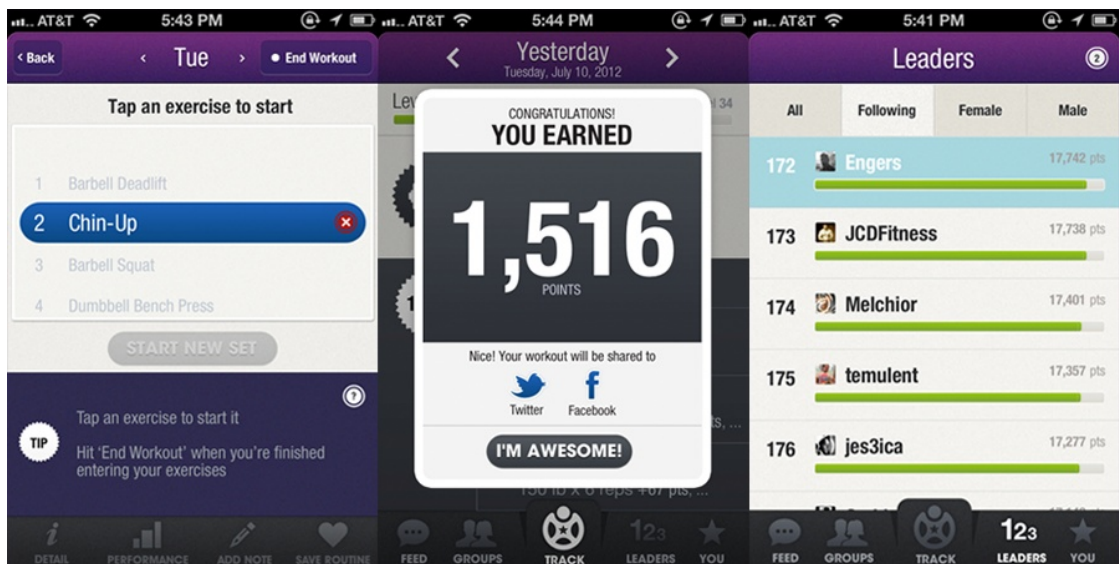


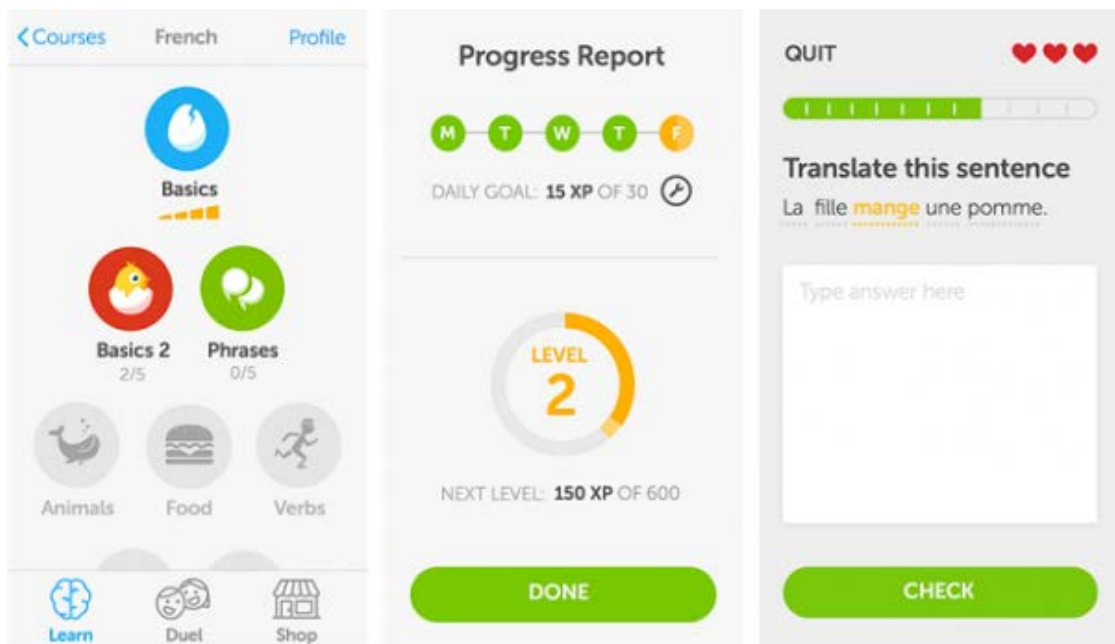
Figure 2.3: Fitocracy Application

Fitocracy aims to get people to have a healthier life by gamifying on fitness and nutrition. They transformed the working out into a role play RPG, in which you gain experience and level up as you work up and eat healthily. It encourages

you to complete various levels of fitness, assigns your badges if you succeed and opposes you to other users to strengthen your competitive advantage.

### 2.8.2 Duolingo

Language education platform Duolingo boasts more than 200m subscribers worldwide and speaking today at Canvas. Its success rated since it first launched. Its gamified design undoubtedly plays an important role in this success, which has attracted the attention of investors interested in its expansion (Andres Solis,2015). Zan Gilani, Associate Product Manager at Duolingo, holds a conference on Product Innovation and Design in Birmingham. It largely explains this global success thanks to the company's four-tier gamification strategy, designed to build customer loyalty. Duolingo is an online application currently available in 21 languages, offering a free learning experience in 13 languages (Andres Solis,2015).

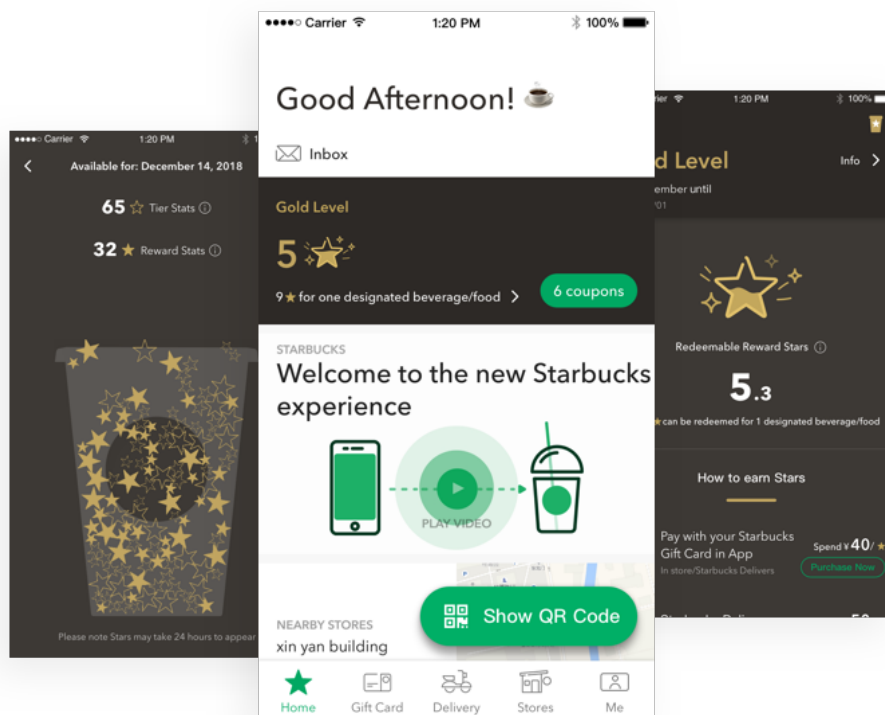


**Figure 2.4:** Duolingo Application

### 2.8.3 Starbucks

In 2009, Starbucks focused on marketing via mobile apps to build customer loyalty and improve their retail experience. From QR codes to Augmented Reality, the franchise based on Seattle had plentiful opportunity to test a number of new tactics in the years that followed. Gamification is at the heart of this strategy (Mike Hector, 2015).

The My Starbucks Rewards program unites fun and interactive features with real rewards and a simplified payment process, providing users with an intuitive and satisfying companion for their visits. The rewards program also provides a lot of customization for users, including a free drink on their birthday and personalized suggestions based on previous requests. In return, Starbucks is consolidating an instant digital relationship with the 14.2 million active members of the US Rewards program. The loyalty program has experienced strong growth, where it has an 11% increase in the number of users in Q2 of 2018. And members of the Starbucks Rewards program in some places are spending more, accounting for 39% of the channel's sales (DAVID ORAGUI, 2018). In fact, 50% of recently surveyed startups reported incorporating game elements into their strategy this year. The application obviously differentiates the program from the consumer's point of view as it generates about 6 million sales per month, where about 22% of all US sales of the franchise (Alex McEachern, 2017).

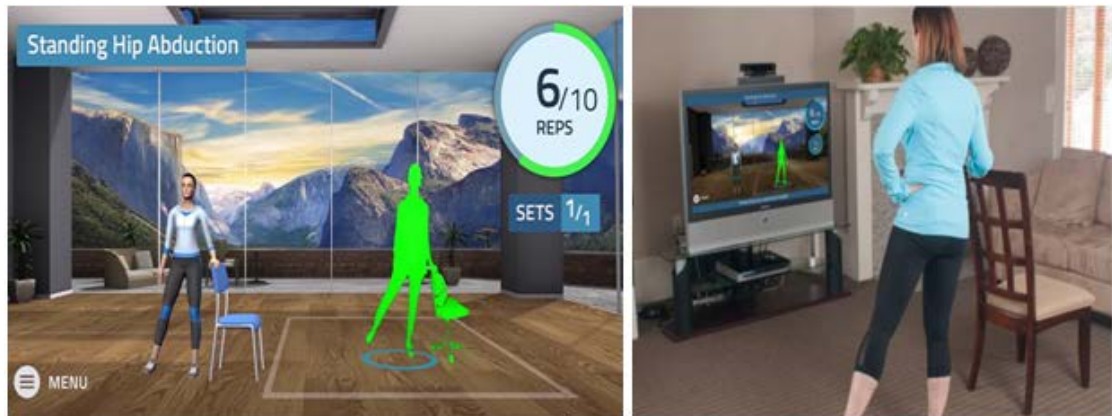


**Figure 2.5:** Starbucks Application

#### 2.8.4 Reflexion health

The latest issue of MPO Magazine contains an article by Sudipto Sur, chief of Reflexion Health, exploring how gamification techniques are applied to healthcare technology and how the role that gamification has played in developing their own virtual exercise rehabilitation assistance platform (VERA).

Reflexion Health aims to "reinvent the experience of physical therapy". Ravi Komatireddy, co-founder and CEO, explained the basics of his business saying that; as a physician, he has seen a big problem with traditional PT (Physical Therapy), it was not done by the patients.



**Figure 2.6:** Reflexion Health

This virtual instruction platform help to solve the issue that Ravi Komatireddy mentioned; Patients watch an animated instructor in their home where he models a specific exercise on their computer screen or TV. They are required to follow the trainer in the same exercises. Motion-guided technology can then compare the performance of the patient with the sample and indicate any adjustments needed (Core Drive # 2, Development and Accomplishment). Physicians can tell if the patient is following the exercises by following their progress. The form problems can then be corrected if necessary.

### **3. CONCEPTUAL FRAMEWORK DEVELOPMENT AND HYPOTHESES FORMULATION**

#### **3.1 Introduction**

This chapter discusses the development of the conceptual framework and the formulation of the hypotheses as well as the associated factors that were taken into account during this research with the intention to form associated hypotheses.

#### **3.2 TAM:**

The Technology Acceptance Model (TAM, Davis, 1989) is one of the most influential models of technology acceptance, known by two main factors influencing the intention of individuals to use new technologies: perceived usefulness and perceived ease of use. According to TAM and inspired by the reasoned action theory (TRA) of Fishbein and Ajzen (1975), the technological system actual use is indirectly or directly influenced by the behavioral intentions of the user, his attitude, perceived ease of use and perceived usefulness. The perceived usefulness was found to be the strongest predictor of a person's intention of using a technology or information system (Davis, Bagozzi and Warshaw, 1989). The perceived usefulness was defined as "the degree to which a person thinks that the use of a particular system would improve one's professional performance" (Davis et al. 1989, 985). It has been widely reviewed to understand user acceptance of the technology as Venkatesh (2000) mentioned. Like perceived ease of use and perceived usefulness, were observationally demonstrated to be an essential part of the adoption process (eg Lin, Shih and Sher, 2007). The model postulates that actual use is specified by the behavioral intent of users, which in turn is impacted by the users' belief and attitude in their perceived usefulness. The behavioral intention structure as an alternative to predict actual use is as well a very essential factor of TAM. In the information systems' application, many researchers have successfully used TAM

to predict behavioral intent regarding information technologies (e.g. Ramayah, Lam, and Sarkawi, 2003; Ramayah and Jantan, 2003; Ingham, and Collette, 2003). The influential theory of TAM has become the greatest in the information system field. As Park (2009) stated it has been argued that almost 40% up to 50% of user acceptance is accounted to represent TAM. Li (2014) also argues that within the context of accepting an information system (IS) the theory of TAM is well-received which clarifies online consumer behavior in the case of individual approval or rejection of technology.

### **3.3 Adapted Research Framework and Stated Hypotheses**

The research framework of this study is illustrated in Figure 3.1. There are seven variables involved in this study which are designated as Perceived Ease of use, Perceived Enjoyment, Perceived usefulness, Perceived Social Influence, trust, and Attitude. Ten hypotheses were developed based on the existing literature.

#### **3.3.1 Perceived usefulness**

Perceived Usefulness (PU) is known as one of the independent concepts of the Technology Acceptance Model (TAM). It was defined by Davis et al (1989) as the degree to which an individual believes that the use of a particular technology would enhance their professional performance in a given organizational context. Koufaris (2002) affirmed the positive connection among perceived usefulness and purchase Intention from the online setting by analyzing the online customers' expectations to make unplanned purchases through e-commerce. Hassanein and Head (2007) analyzed a similar relationship and affirmed it by observing the data from three different groups on their social presence in the e-commerce context. Further, a few examinations have indicated that perceived usefulness straightforwardly impacts purchase intention in e-commerce contexts (Gefen, Karahanna and Straub, 2003; Gefen and Straub, 2000). Some other research has discovered important perceived usefulness on attitudes and intentions (e.g. Venkatesh, 2000; Pikkarainen, Pikkarainen, Karjaluoto, and Pahlila, 2004; Davis et al., 1989). Therefore, Shroff, Deneen, and Ng's (2011) have concluded that perceived usefulness had no impact on the consumer behavioral intention for using a framework of e-



portfolio. Another investigation by Li, (2014) contends that within the context of gamification, perceived usefulness is deluding and pointless. Therefore, within the context of marketing, a recent study about gamification was done by Yang et al. (2017). They maintained that gamification is a useful mechanism that can be used by brand managers to improve consumer attitudes towards the brand. They claimed also that the relationship between the brand and the game is probably going to make a useful mechanism of brand. And arguing that customers who tend to see the game as useful in the brand familiarity/acknowledgment are more to participate in the gamified procedure.

Thus, perceived usefulness is a significant driver of customer purchase intention. Consequently, the first hypothesis is proposed as:

**Hypothesis 1:** Perceived Usefulness positively affects customers' purchase intention.

Marketing activities such as advertisement, that keep engaging clients in gamified activities, have proven to be useful tools for increasing awareness of brand, changing the brand attitude of customers, and ultimately, influencing customer intention to purchase (MacKenzie, Lutz and Belch, 1986, Tsai & Chang, 2007). The perceived usefulness of the process of gamification marketing may as well influence customers' attitudes toward the brand. Biehal, Stephens, & Curio, 1992; Sallam and Algammash, (2016) stated that perceived usefulness is considered as one of the basic elements to predict people's attitudes toward new technology or system and they have also said that the attitude of peoples towards advertisement is firmly related the attitude of peoples toward the brand. Consequently, the second hypothesis is proposed as:

**Hypothesis 2:** Perceived Usefulness positively affects customers' brand attitude.

### **3.3.2 Perceived ease of use**

In TAM, perceived ease-of-use is an essential determinant for the acceptance of a given technology. Perceived ease-of-use (PEOU) was defined by Davis (1989) as the degree to which a person believes that the use of a particular system does not require any effort. Davis, 1989; Adams et al (1992) said that perceived ease of use has a direct effect on both perceived usefulness and technology usage.

According to Davis (1989), the combination of perceived ease of use and perceived usefulness causes the user's attitude and intention to embrace a specific information system. Van der Heijden (2003) added also that perceived ease of use has a significant effect on perceived usefulness, perceived enjoyment tend intention to take the use of a particular information system. Also, the improvement of ease of use may be as well necessary, in order to contribute to the improvement of performance (Davis, Bagozzi, & Warshaw 1989). Generally, it is believed that a system will be considered more useful if it is easy to use. Venkatesh and Davis (2000) said that to the extent where the growth of ease of use leads to improved and better performance, it would have a direct effect on perceived usefulness. Like for example in some studies done by Morosan (2012), Kim, Ferrin et al. (2008), Kim, Lee et al. (2008), and Ayeh (2015) and Agag and El-Masry (2016), provide empirical support for a positive relationship between perceived usefulness and ease of use. Rodrigues, Oliveira and Costa (2016) defined ease of use in their study as the extent to which consumers may adopt gamified business applications, concluding that the consumers perceived it as effortless and easy.

Therefore, the third hypothesis is proposed as:

**Hypothesis 3:** Perceived Ease of Use positively affects the perceived usefulness.

Perceived ease of use (PEOU) is known to be an important factor influencing the intention or behavioral attitude of individuals. In previous researches it has been found that within the technology of information adoption the perceived ease of use can impact attitude or behavior (e.g. Hsu and Lu, 2004; Rodrigues, Costa, and Oliveira, 2013). Perceived ease of use is considered as one of the primary factors in the prediction of user acceptance and agreeing on its impact on attitudes and behaviors as stated by Huang, Linn and Chuang (2007). However, Benbasat and Barki (2007) and Li (2014) stated that ease of use was not pertinent in the context of gamification. Yang, Asaad and Dwivedi (2017) replied to that statement by challenging this perspective and arguing that gamification is used by a growing number of firms as a technology platform to impact the behaviors and attitudes of their consumers and adding that

simplicity, the accessibility level, and degree of ease of understanding and interaction of these games vary.

In the process of gamification, the perceived ease of use can impact the attitude of people in the same way as perceived usefulness. Perceived ease of use indicates the need for no effort to adopt a new technology or system (Davis et al., 1989). In the case where the modern system or technology to utilize, it more satisfying to people and they are more likely to be inclined to adopt it, creating a positive image of this modern technology or system. In addition, relative to people with a negative state of mind, it has been proven that people who have positive state of mind have a more positive attitude to the brand and a better intention to try the advertised products (Owolabi & Olu- Wabi, 2009). In this view, greater perceived ease of use is more to provoke a favorable attitude of the brand. A study in Malaysia about the brands of Smartphone has discovered that there is a positive and significant relationship between customer satisfaction and brand attitude (Ghorban, 2012). The satisfaction itself was considered as the system use index (website) (Tu, Fang and Lin, 2010) and was considered to be able to influence attitudes toward a use or system of technology. It was as well discovered that the perceived ease of use had a strong impact on the satisfaction of customer. It is therefore rational to imply that the PEOU is associated with brand attitude.

Thus, the fourth hypothesis is proposed as:

**Hypothesis 4:** Perceived Ease of Use positively affects customers' brand attitude.

### **3.3.3 Perceived social influence**

Social influence is often considered as an essential factor to cause a change of attitude and also, concerning the game players are known as a significant motivation, it is described as the change in behavior, feelings, thoughts or attitudes that one person or a group causes in another, intentionally or unintentionally, as a result of the way the changed person perceives themselves in relationship to the influencer, other people and society in general. In the social media environment, the change of attitude is seen as an omnipresent influence on judgments. People frequently tend to interpret in a new way the

online messages through the ideology of a significant social group and close people. Burger (2001) stated that social influence phenomena are often divided by social psychologist into three categories: Conformity, Compliance and Obedience.

Conformity generally refers to how a person changes behavior to be more like others and match the perceived group norm. This plays on the belonging and esteem that people need when they seek the approval and friendship of others. Conformity can run very deep, where some people can even change their beliefs and values to be like their admired superiors. These changes are voluntary; however, the individual may not always be aware of his or her conformity.

Compliance is where one person does something that another person asked him/her to do. These requests usually involve individuals to do a favor, buy a product or give money or services. The individuals have free will here to choose to comply or not to comply, but the thoughts of social reward or punishment may cause them to compliance while they do not want to comply.

Obedience refers to responding or obeying to direct commands or demands from someone whom you accept as an authority figure. Somehow obedience is different than compliance where in compliance the person has some choice but in obedience, he/she believes that he /she does not have a choice.

In marketing, parents, couples, mass media, school and purchasing skills represent a number of socio-cultural forces where they can have a major influence on the process of socializing the clientele (Gunter & Furnham, 1998). Kamaruddin and Mokhlis (2003) maintained the significance of the social influence on younger generation purchase decisions and brand attitudes. Within the game process, players usually tend to work together and cooperate or compete against each other and thereby perceive social influence.

Perceived social influence is known to have the capacity to influence the attitude of people toward the modern system and to influence more the brand's attitude towards people within the gamified marketing context.

Thus, the hypothesis five is postulated as:

**Hypothesis 5:** Perceived Social Influence positively affects customers' brand attitude.

### 3.3.4 Perceived enjoyment

According to Davis, Bagozzi and Warshaw (1992) Perceived enjoyment (PEN) is defined as the degree to which the activity of using the technology is perceived as pleasant in itself aside from any performance consequences that can be anticipated (Timothy T, Jan N, 2011). The enjoyment is considered as a significant value source toward gamers, and therefore with aspects of enjoyment the players are increasingly disposed to preserve a behavior (Deci et al., 1999). Though, to the best knowledge of the authors, the enjoyment impact on the attitude of the brand has still not been explored within the gamification context Research by Taylor, Lewin, and Strutton (2011) suggested that perceptions of SNS users from entertaining advertisements would influence positively their attitude toward advertising on these SNS. Brackett and Carr (2001) and Koufaris and Gao (2006) also supported this view, arguing that perceived enjoyment has been designated as one of the principal impacts on consumer attitudes related to e-commerce advertising. According to a study about student acceptance of a learning medium based on internet Lee et al. (2005) considered that enjoyment has not only indirect influence through attitude but as well as a direct influence on behavioral intention.

Clancy and Lloyd (1991), Gullen (1993), and Norris and Colman (1993) have suggested that an advertisement's entertainment or enjoyment properties can affect the attitude of people to this advertisement. In comparison with a different activity like systems of information, more and more experiential orientation will be open to the processes of gamification (such as games) and online shopping. Therefore, intrinsic motivations motivate the attitude of participants more than online games do. The perceived enjoyment of the modern system of marketing is likely linked to the attitude toward this system, also the attitudes of people toward this system may as well be associated to their attitude toward the brand attached in this system.

And the sixth hypothesis is presented as below:

**Hypothesis 6:** Perceived Enjoyment positively affect customers' brand attitude.

An intrinsic motivation variable such as perceived enjoyment is supposed to improve perceptions of extrinsic motivation such as perceived usefulness.

Kubaş et al., (2016) study has shown that perceived ease of use, perceived usefulness and perceived enjoyment, and affect directly and positively each other. Other studies have shown that enjoyment has a positive effect on the usefulness of user-accepting systems and technologies such as e-learning systems (Yi & Hwang, 2003), instant messaging (Li et al., 2005), and search engines (Liaw & Huang, 2003).

Sun and Zhang (2008) said that people who have a pleasant perception of the enjoyment of using the product are more likely to perceive it as useful. In addition, Agarwal and Karahanna (2000) found a multidimensional construct called "cognitive absorption" which is a state of involvement with the software that had a significant influence on the perceived usefulness. A high cognitive absorption status that has a big impact on the perceived usefulness is enjoyment. Assuming all things are equal, the more enjoyable a product is, the more useful a product can be perceived.

Davis et al. (1992) had found that usefulness and enjoyment were significant determinants of behavioral intention. However, Mun and Hwang (2003) said that the effect of enjoyment on perceived usefulness was relatively under-examined.

Here is the seventh hypothesis conjectured this way:

**Hypothesis 7:** Perceived enjoyment positively affects the perceived usefulness.

### **3.3.5 Trust**

Trust in brands is considered essential in many studies (Doney & Cannon, 1997, Moorman et al., 1992). It is conceptualized as a significant factor in the company's success (Morgan & Hunt, 1994). Brand trust is defined by Chaudhuri and Holbrook (2001) as "the willingness of the average consumer to rely on the ability of the brand to perform its stated function». Specifically, as Lau and Lee (1999) mentioned, trust in the brand is considered as the link between accompanying responsibility of the brand and consumer expectations. Trust reduces the incertitude and doubts within an atmosphere where the feelings of the consumer are susceptible knowing that he is able to depend on a trusting brand (Chaudhuri & Holbrook 2001). Trust can also be defined as the confident beliefs of consumer that he or she can rely on the vendor to deliver

promised services. The brand with a good reputation will enhance consumers' trust in it whenever it has met their expectations after consumption (Lau & Lee 1999). Doney and Cannon (1997) said that trust in brand is born after the evaluation of the offers of the companies by the consumers. If companies offer consumers the security, honesty, and trustworthiness of their brands, trust in the brand will be generated later. It may be explained that trust in a brand is formed and developed through direct consumer experiences across brands.

Therefore, customer trust in the brand lead him or her to the purchase intention or behavior which is a market for relational assets where the implications for maintaining and developing trust are at the brand's heart for the reason that it is acknowledged to be a key feature of successful long-term relationships as Morgan and Hunt (1994) concluded. Trust creates a precious transactional relationship, which makes it interpreted as the main driver of purchase intention and behavior. In such a context, purchase intention or behavior is not only centered on just purchasing, but in an internal behavior or position with respect to the brand, it cannot constitute a sufficient basis for a complete understanding of the relationship brand-customer. Chaudhuri and Holbrook (2001) stated that purchasing intention behavior emphasizes the ongoing process and the maintenance of valuable and important relationships created born of trust. The main goal of marketing is to produce a strong relationship between the brand and customers, and trust represents the principle foundation of this relationship. Basing on this idea, Delgado et al. (2005) hypothesized that the emergence of trust in a brand affects buying intention and behavior as an expression of successful customer-brand relationships.

The eighth hypothesis is developed as follows:

**Hypothesis 8:** Trust positively affects customers 'purchase intention.

Chircu et al., (2000); Pavlou, (2003); Dahlberg et al., (2003) and Ha and Stoel, (2009) identified strong correlations between perceived usefulness and perceived trust. In their research on the online banking customers' intentions to use online banking, Chau et al. (2006) combined the confidence factor into the model using the TAM. Consequently, the study concluded that the trust factor had a direct effect on perceived usefulness.

The ninth hypothesis is developed as follows:

**Hypothesis 9:** Trust positively affects the perceived usefulness.

### **3.3.6 Attitude**

Eagly and Chaiken (2007) defined the attitude as a psychological path to evaluate a particular object with favour or disfavour. Attitude can be considered a constant way of thinking when it lasts longer. It includes evaluations of the elements referred to it proceed or not. Attitudes developed through experiences may change as new experiences are gained (Ajzen, 2001; Chen, 2007; Armstrong, 2009). Attitudes can also be predictive of behavior, because when an individual structure a positive or negative attitude towards specific objects, the probability of acting relies on that attitude. In addition, when a positive attitude is developed by consumers towards a product, it will have a positive effect on future purchase intention and actual buying behavior (Fazio, R.H., 1990). The more positive the attitude toward behavior, the greater is the intention of the individual to perform the behavior under study (Tarkiainen and Sundqvist, 2005).

Chen (2007) specified that consumer preferences and attitudes towards purchasing a specific product were based on their attitude and personal desire to perform behavior. Attitude towards a particular behavior depends on expectations and beliefs of the consequences of a particular behavior (Ajzen, 1991; Tarkiainen & Sundqvist, 2005; Chen, 2007). According to Engel and Blackwell (1978), purchase intention plays an important role as a predictor of consumer behavior, which is often used instead of actual behavior. Homer and Kahl (1988) used a hierarchy model of the value and behavior that indicates the direct influence of value on behavior is weak and that this attitude intermediates these relationships. That is, attitude formation can be an essential step before purchase intention.

The tenth hypothesis is developed as follows:

**Hypothesis10:** Customers' attitude toward the brand positively affect consumers' purchase intention.



### 3.4 Conceptual Model

The research model of this study was developed based on the existing literature (Yang, Asaad & Dwivedi, 2017). There are four independent factors in this model that are perceived ease of use, perceived social influence, perceived enjoyment, and perceived trust. And three dependent factors are perceived usefulness, purchase intention, and attitude as a mediator variable.

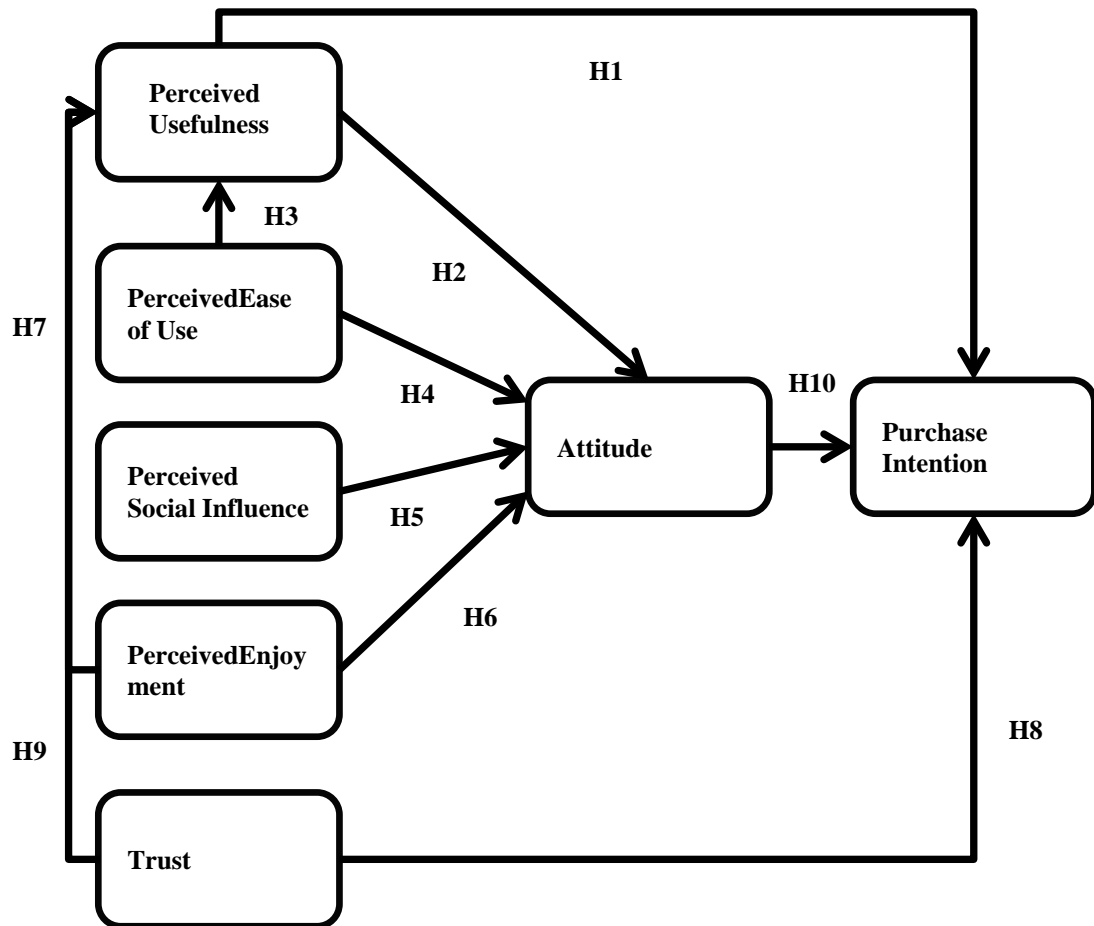


Figure 3.1: Conceptual Framework of the Study

## **4. RESEARCH METHODOLOGY**

### **4.1 Introduction**

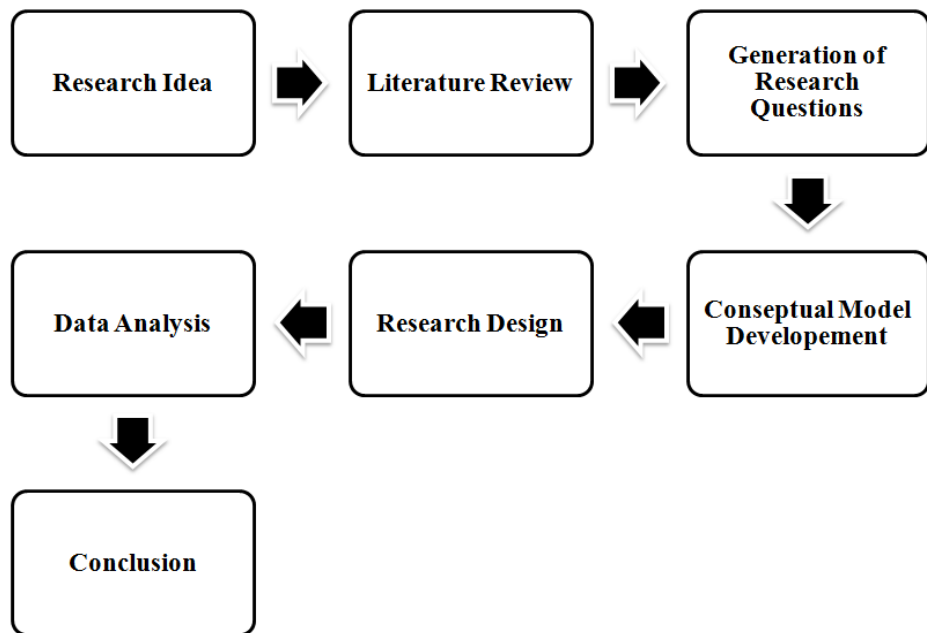
The chapter of the research methodology examines the methodology and procedures that were used for this research by identifying sampling procedures and the research design, data collection, statistical techniques, and instrumentation.

### **4.2 Research Design**

This research aims to identify the influence of gamification features on consumers' attitudes and purchase intention in FMCG. Simultaneously, it will evaluate the relationship between variables which can be a part of that influence.

For this study, quantitative research methods were employed. The survey data was collected via an online self-administered questionnaire. The research phases for this study started with research ideas as it is shown in Figure 4.1 which further followed by reviewing all preceding studies that have similarity with the subject. The further phase involved the conceptual model creation.

The plan of the design study was visualized and on the basis of the study sample group, the necessary data were collected with the aim of testing the established conceptual model. Later, the analysis data were performed in order to identify the responses of research questions. Lastly, after finishing the analysis of the information collected, the interpretation of the results, and the drawing of the conclusion were carried out.



**Figure 4.1:** Research Phases of the Study

### 4.3 Procedure

For the survey respondents were invited to participate in a gamification activity that incorporated an FMCG application (OREO: Lick, Twist, Dunk). The participants were first required to download that application to the mobile devices from the application store. Then, the participants have to try the game with friends and then fill the online questionnaire. Before the questionnaire was distributed among the participants, the required endorsement was acquired from the Istanbul Aydin University Ethics Committee.

A brief explanation on how the application works:

The Oreo game (Oreo: Twist, Lick, Dunk) was made especially for the famous chocolate cookies brand. Rules are easy to follow, the player has to twist the virtual Oreo cookies, lick them and then dunk them in the glass of milk. Firstly to be able to do the "twist", the player has to slide the cookies. Secondly, the player has to swipe again for the "lick" and then has to combine the cookies into a big one. Finally, the player has to pull the huge cookie into the famous glass of milk to make the "dunk".

#### **4.4 Study Sample**

This study was carried out by using a convenience sampling method. This method is one of the specific types of non-probability sampling method that depends on the collection of data from population members who are readily available to participate in the study. Convenience sampling is a type of sampling in which the first available primary data source will be used for research without additional requirements. In other words, this sampling method involves bringing participants wherever you can find them. For practical reasons, no inclusion criteria were identified before the selection of subjects. All subjects are invited to participate. Pallant (2013) pointed out that for generalization goals, multiple regression techniques requires large sample size and he recommended the use of the followed formula suggested by Tabachnick and Fidell(2007).

$$N > 50 + 8m$$

Where:

N represents the sample size and the m represents the number of independent variables.

In accordance with the formula above, the needed sample size for the present study is N greater than 82 (independent variables number = 4). Moreover, according to the index of Hoetler, a sufficient sample size for the SEM method should exceed 200 because it adequately represents the data. Thus, the current research was aimed at obtaining 200 responses (at least) to fulfill the two requirements referred above.

#### **4.5 Instrumentation**

As presentstudy focuses on the techniques of the quantitative research, for the collection of the data, Likert type surveys were selected. The online questionnaire empowered by Google forms was distributed in English and the majority of responses were from participants who have knowledge of the English language living in Turkey. The survey was distributed via WhatsApp and Facebook to various groups and Twitter was used. In the first part of the

survey, respondents were asked to answer specific types of questions in order to obtain information that reflects the demographics and profile of the customer.

This included gender, age, professional status, internet usage, and mobile operating system. Questions with the purpose to assess research variables were included in the second section of the survey such as perceived social influence, perceived usefulness, perceived enjoyment, and perceived ease of use, trust and attitude.

5-point Likert scale was used to measure the research items: 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree), 5 (strongly agree). Scale items were adapted from previous studies. The scale items for Perceived usefulness were adapted from Hsu and Lu (2004). Perceived ease of use items adapted from Van der Heijden, Verhagen, and Creemers (2003), Hsu and Lu (2004). The scale items for perceived social influence were derived from Hsu and Lu (2004). Perceived enjoyment items were adapted from Wu and Liu (2007) and Wakefield et al. (2011). Purchase intention items were derived from Dodds et al. (1991), Prendergast et al. (2010), Jalilvand and Samiei (2012), and Lu et al. (2014). The scale items for attitude were adapted from Yalcin, Erdogmus and Demir (2009), and Park (2009). Perceived trust items were adapted from Delgado-Ballester and AlemanMunuera (2001), Chaudhuri and Holbrook (2001), Hsieh and Hiang (2004), Dixon, Bridson, Evans, and Morrison (2005), Caceres and Pappas (2007), and Song, Wang and Han (2019).

A full version of the questionnaires and table that depicts the sources of the adapted questions are provided in Appendix A, B, and C.

#### **4.6 Statistical Techniques**

The statistical methods and tools that have been used in this study are SEM (Structural Equational Model) and CFA (confirmatory Factor Analysis). Thanks to CFA, it is possible to evaluate the relationship between factors and observed variables (Byrne, 2010).

Simultaneously, the validity of the measures can be assessed by the CFA. CFA is mostly related to SEM. It is considered as one of the broadly used techniques

of data analysis. Meanwhile, the SEM is based on the factor of error and provides an ability to test theories in quantitative manner.

The fundamental difference between SEM and CFA is that SEM comprehends structural path among focus (latent) variables, whereas CFA concentrates on the relationship between observed and latent variables.

IBM SPSS AMOS version 24 and IBM SPSS version 25 were applied to carry out this study's analysis. AMOS is defined as "analysis of moment structure" and is an SPSS integral part. It may be employed for CFA and SEM used in this research. This software allows to reflect the estimates on illustrated graphs and to design a trajectory diagram (Byrne, 2010).

## 5. DATA ANALYSIS

### 5.1 Respondents Demographic Characteristics

In this study sample, 200 valid responses were collected as mentioned above. This part supplies descriptive data of participants and additional information. Primarily, the respondents' basic characteristics such as occupational status, gender, internet use, age, internet hours, and mobile operating system were studied with single choice questions. Table 5.1 shows the respondents' demographic profile.

Here are the general questions' results of the survey: Females respondents' rate was 57.5% while that of men 42.5%. Survey participants' age ranged between 17 and 70 years. In the professional status section, "student" was the most chosen with 48%. Moreover, a large number of respondents (72.5%) use the Internet every day. For the internet usage hours, for the internet usage hours, the majority of responses have chosen "more than 4 hours a day" with (43.5%), followed by 31.5% for "3-4 hours". 77% of the respondents chose to use Android as a mobile operating system.

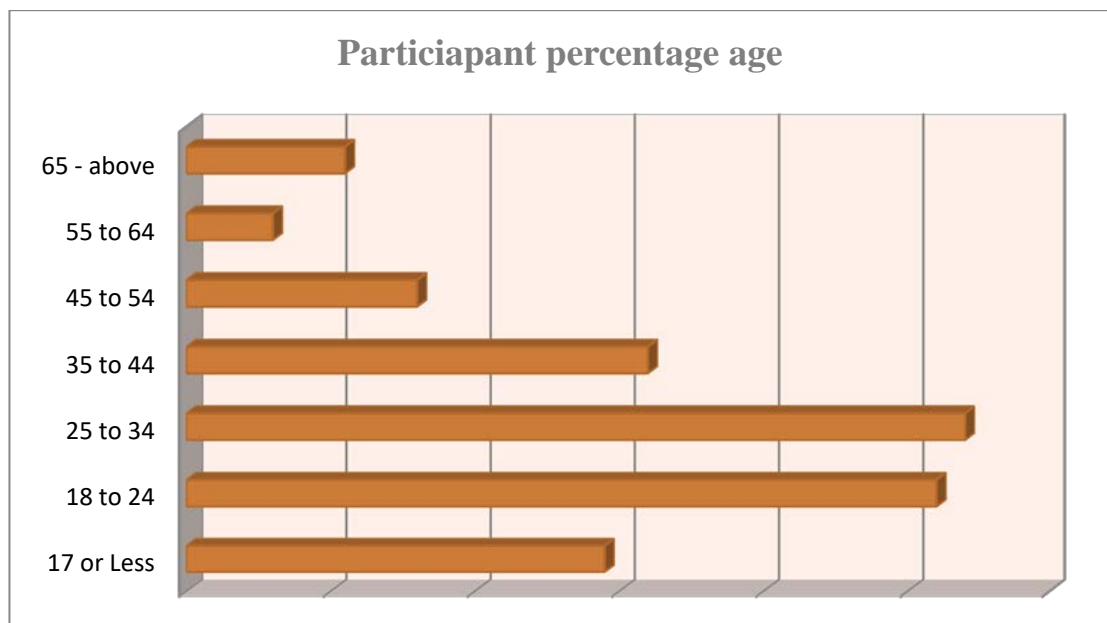
**Table 5.1:** Respondents Demographic Profile

Demographics profiles		Frequencies	Percentages (%)
<b>Gender</b>	Female	115	57.5
	Male	85	42.5
<b>Age</b>	17 or less	29	14.5
	18 to 24	52	26
	25 to 34	54	27
	35 to 44	32	16
	45 to 54	16	8
	55 to 64	6	3
	65-above	11	5.5
<b>Professional Status</b>	Student	96	48
	Employer	26	13
	Employee	57	28.5
	Retired	11	5.5
	Unemployed	10	5

**Table 5.1:** (con) Respondents Demographic Profile

Demographics profiles		Frequencies	Percentages (%)
<b>Internet Usage</b>	Everyday	145	72.5
	More than once a day	40	20
	Once a day	11	5.5
	Once a month	1	0.5
	Less than once a month	3	1.5
<b>Internet usage hours</b>	Less than 1 hour a day	4	2
	1-2 hours	10	5
	2-3 hours	36	18
	3-4 hours	63	31.5
	More than 4 hours a day	87	43.5
<b>Mobile operating system</b>	Android	155	77.5
	IOS	33	16.5
	Other	12	6

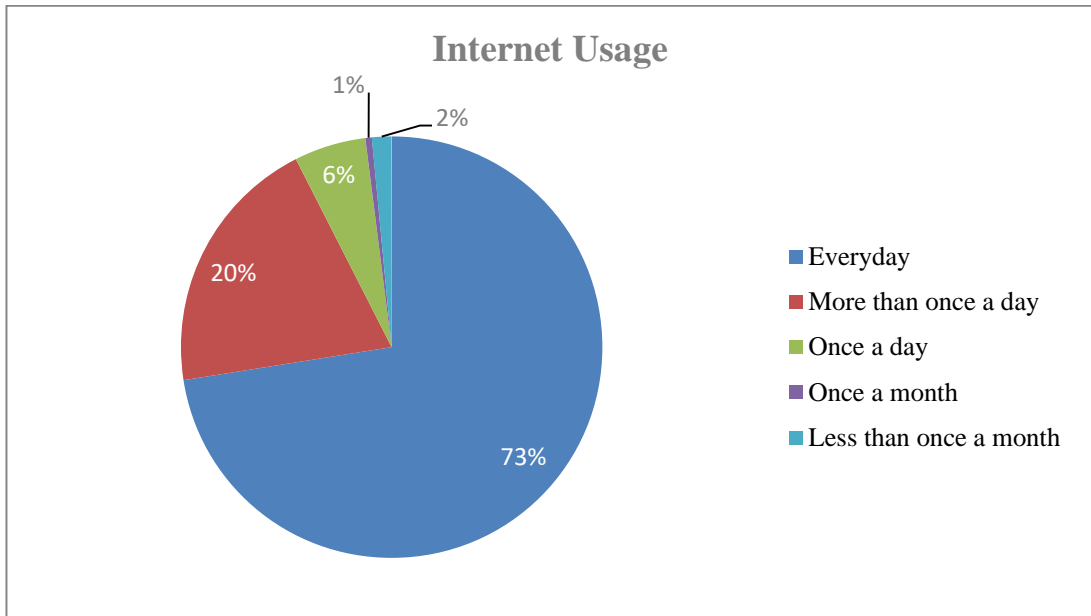
Majority of the respondents were aged between 25 to 34 years old with (27%), followed by 26% aged between 18 to 24 years old. Then respondents aged between 35 to 44 with 16% and 14.5% for 17 or less. 8% of respondents aged 45 to 54, 5.5% for 65 or above and it ends with 3% aged between 55 to 60 years old.



**Figure 5.1:** Participants Age in Percentage

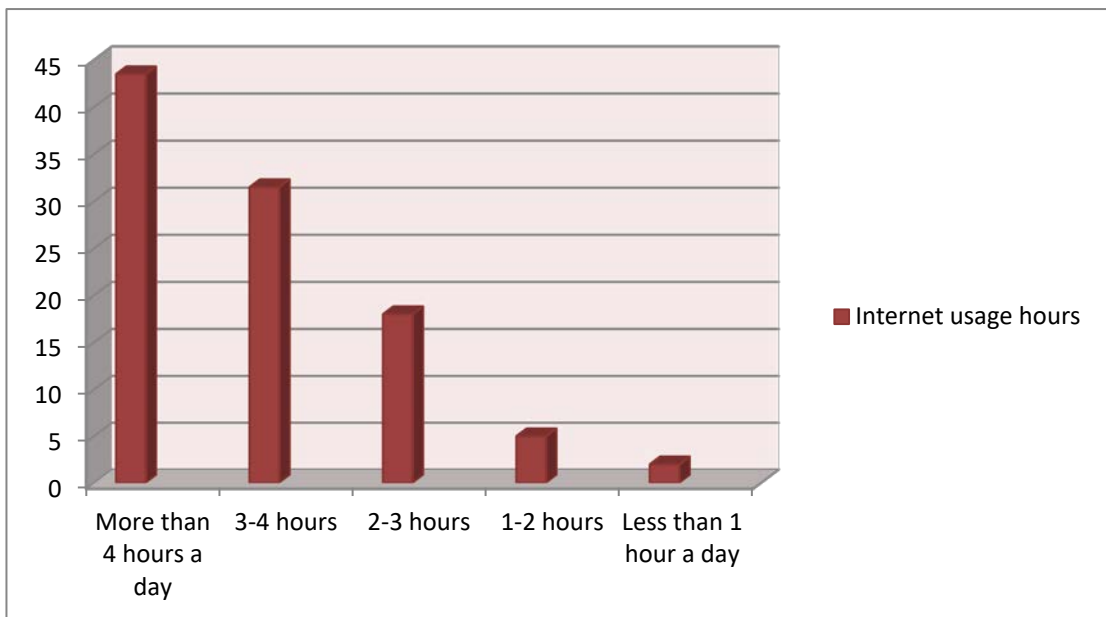


Most participants use internet everyday (72.5%), then 20% of them use internet more than once a day, followed by 5.5% who use it once a day. 1.5% use less than once a month and 0.5% use the internet once a month (Figure 5.2).



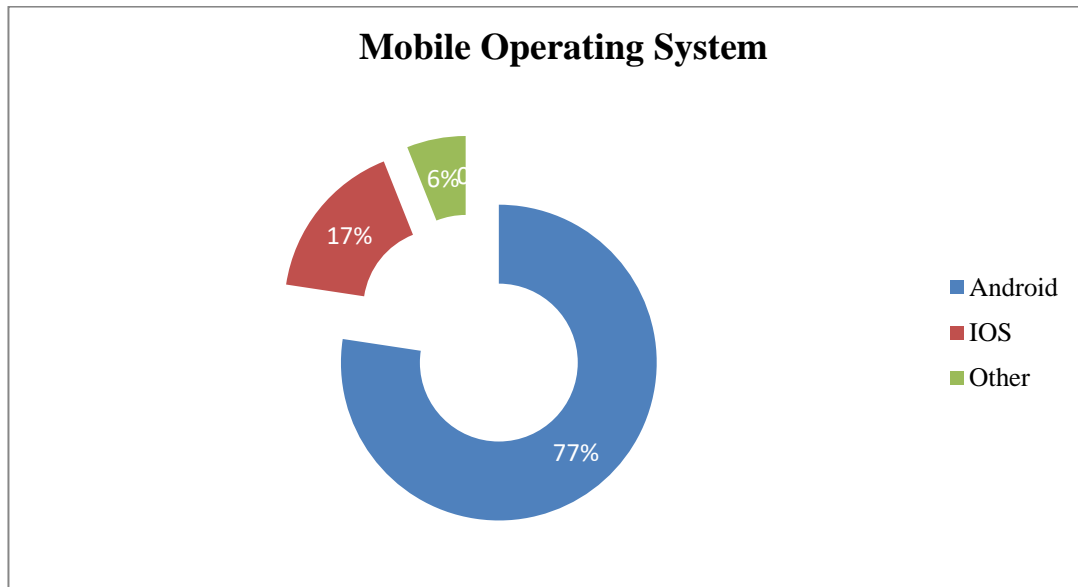
**Figure 5.2:** Usage of Internet by Participant in Percentage

28.6% of the respondents spend more than 8 hours, 23.3% of the respondents spend 2-3 hours, 20% of the respondents spend less than 1 hour, 15.2% of the respondents spend 4- 5 hours and 11.9% of the respondents spend 4-5 hours a day on a personal computer (Figure 5.3).



**Figure 5.3:** Internet Usage Hours

As a mobile operating system Android was chosen by most of the respondents (77%), followed by IOS with (16.5%) and other operating systems with (6%).



**Figure 5.4:** Mobile Operating System

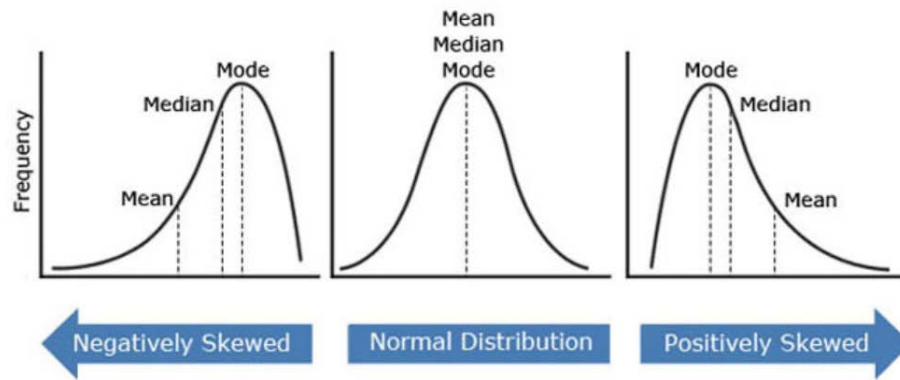
## 5.2 Inferential Statistics

### 5.2.1 Normality assessment

The kurtosis and skew usually reflect the non-normality of the data on a variable basis and it may occur simultaneously or individually. Skewness is known as a statistical measurement that calculates the distribution data asymmetry from the average. Figure 5.5 demonstrates positive skew examples that indicate a larger or longer part of the distribution's right side; meanwhile negative skew indicates a larger or longer part of the distribution's left side (Kline, 2011).

In general, the thumb's rule appears to be that way:

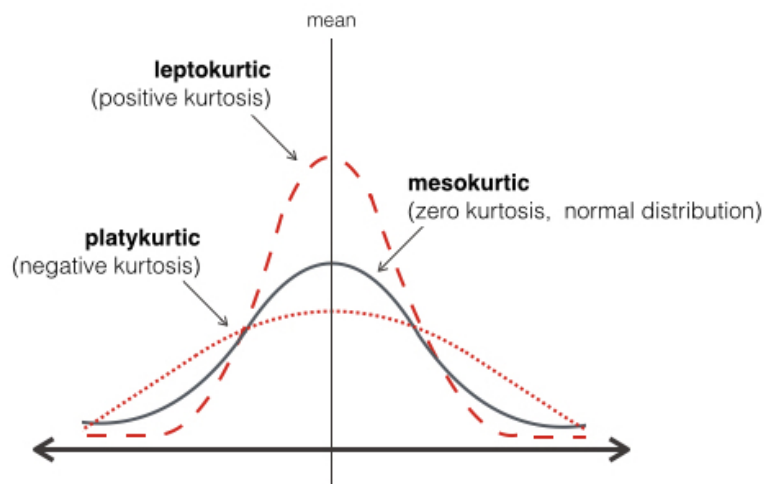
- If  $-0.5 < \text{skewness} < 0.5$  = approximately symmetrical and fairly distribution.
- If  $-1 < \text{skewness} < -0.5$  (negatively skewed) or  $0.5 < \text{skewness} < 1$  (positively skewed) = moderately skewed distribution.
- If  $\text{skewness} > 1$  (positively skewed) or  $\text{skewness} < -1$  (negatively skewed) = highly skewed distribution.



**Figure 5.5:** Skewness for Different Type of Spectrum

Source: Kline, 2011.

Meanwhile, kurtosis represents a statistical measure that shows whether the data has a higher peak and heavy-tailed which represents the positive kurtosis or the data has a lower peak and light-tailed which represents this time negative kurtosis, in comparison to the normal distribution. Kline (2011) described the leptokurtic as the distribution containing positive kurtosis and platykurtic as the distribution containing negative kurtosis. Positive and negative kurtosis examples are shown in Figure 5.6 compared to the normal curve. As Kline (2011) mentioned the skewed distributions usually have positive kurtosis, this indicates that the used repairs for skew corrections may correct the problems related to kurtosis.



**Figure 5.6:** Examples of Positive and Negative Kurtosis

Source: Kline, 2011)

To be able to carry out an SEM analysis, it is essential to make sure that the provided data are multivariate normal. Consequently, managing data checks are considered to be very essential especially when verifying if the data meets the requirements of normality. The majority of research found that the kurtosis index accepted range usually has a value of 3. There is a positive kurtosis when the value number is equal to 3 and a negative kurtosis when it is under 3. Though, Byrne (2012) said that the majority of software and statistical tools are best known for reducing this value to 0. If both kurtosis and skewness's range are not at -2 and 2 the data is not considered as a normal distribution (West, Finch, and Curran (1995).

**Table 5.2:** Rescaled Standardized Skew Index and Kurtosis Index.

Variable	min	max	skew	c.r.	kurtosis	c.r.
T6	1,000	5,000	-,356	-2,058	-,133	-,384
PEOU4	1,000	5,000	-1,326	-7,657	1,384	3,996
PEOU3	1,000	5,000	-1,149	-6,636	,989	2,856
PEOU2	1,000	5,000	-1,083	-6,251	1,189	3,434
PEOU1	1,000	5,000	-,927	-5,350	,631	1,822
PU1	1,000	5,000	-1,530	-8,833	2,285	6,597
PU2	1,000	5,000	-1,092	-6,306	1,464	4,225
PU3	1,000	5,000	-1,056	-6,097	1,257	3,628
ATT4	1,000	5,000	-,634	-3,660	,233	,673
ATT3	1,000	5,000	-,689	-3,977	,281	,811
ATT2	1,000	5,000	-,851	-4,912	,733	2,115
ATT1	1,000	5,000	-,532	-3,073	-,203	-,586
PSI4	1,000	5,000	-,395	-2,282	-1,012	-2,920
PSI3	1,000	5,000	-,312	-1,801	-1,125	-3,248
PSI1	1,000	5,000	-,666	-3,843	-,709	-2,046
PI3	1,000	5,000	-,817	-4,717	,435	1,257
PI2	1,000	5,000	-,438	-2,526	-,167	-,483
PI1	1,000	5,000	-,344	-1,984	-,741	-2,140
PE1	1,000	43,000	12,220	70,551	162,339	468,633
PE5	1,000	5,000	-,838	-4,836	,272	,785
PE4	1,000	5,000	-,838	-4,839	,414	1,196
PE3	1,000	5,000	-,707	-4,079	,134	,386
PE2	1,000	5,000	-,813	-4,692	,577	1,666
T4	1,000	5,000	-,233	-1,347	-,597	-1,723
T3	1,000	5,000	-,498	-2,874	-,168	-,486
T1	1,000	5,000	-,327	-1,889	-,315	-,911
Multivariate					352,257	65,278

These thresholds are suggested for researches that focus on large SEM samples to perform an assessment of normality:

- Skewness Index's absolute values  $> 3.0$  = Extremely skewed data distribution (Kline, 2011).
- Kurtosis Index's absolute values  $> 8.0$  to over 20.0 = extreme data distribution (Kline, 2011).
- Value of absolute kurtosis  $> 7.0$  = significant departure from normality (West et al., 1995, Byrne 2012).

It can be seen from the results of skewness and kurtosis in Table 5.2 that all the respective statistics of skewness and kurtosis except PE1 and PU1 falls within the range of thresholds (-2 & 2), which means that the data meets the normality assumption.

### **5.3 Reliability and Validity Assessment**

Reliability and validity are the two most important and fundamental characteristics of the evaluation of any measuring instrument or tool for good quantitative research. Validity consists of checking whether the variables are accurately measured which makes its role very important and essential for certain latent variables that cannot be directly observed due to their complex nature. Therefore, the evaluation of these variables is a must for research purposes; they also must be measured indirectly using questionnaires. Every question acts as an evident variable that allows revealing the latent variable to the maximum. Thus, developing a precise measuring instrument, and an appropriate indication, is an essential and tough task to achieve. Consequently, any future analysis would have no value if the latent variable measurement is not correctly designed as Muijs (2010) concluded. While measuring the validity instruments, the freedom degree from systematic error is taken into account.

Systematic error can occur for various reasons, such as measuring instrument, research environment, the user of the instrument, subject. Generally, there are several forms that validity can be evaluated with:

- Construct validity

- Criterion validity
- Content validity

This study concentrates on construct validation, focusing particularly on:

- Discriminant validity
- Convergent validity

The dedicated measures to the latent variables' measurement (at least two) should be linked under the same structure to be able to validate the convergent validity. Whereas for validating the discrimination validity, Smith and Albaum (2005) said that measures illustrating dissimilar latent variables must be less related than they are in the same structure. For the quality evaluation of the measuring instrument, the assessment of reliability represents the second method. The measurement error continually appears in the measurement process. As a result, the reliability associates with the degree of absence of this error in the test results. In the case of unreliability, going to further tests would be worthless. In addition, unreliable measures will make the relationship between other variables that impede a clear picture of results unimportant. Similarly, Muijs (2010) stated that in research the unreliability represents one of the common reasons that make the relationship between variables insignificant, and that makes the scale invalid too. Moreover, Smith and Albaum (2005) said that the characteristics stability over a given time period and the consistency of the elements measured between the participants are both examined by reliability.

Hair et al. (2010) suggested some thresholds for the evaluation of reliability and validity. Here is what they suggested: to guarantee the reliability, Composite Reliability (CR) value should be greater than 0.7. And to guarantee convergent validity, the Average Variance Extracted (AVE) measure should be greater than 0.5. Meanwhile, discriminant validity has two thresholds, first the Maximum Shared Variance (MSV) measure should be less than AVE and second, the AVE's square root should be greater than the inter-construct correlations.

It is crucial to maintain the convergent validity, discriminant validity, and reliability for conducting a CFA. The reliability and validity evaluation that is carried out in this research is summarized in Table 5.3. It was performed on the basis of correlation tables and normalized regression weights, extract with the help of the Amos software.

**Table 5.3:** The Validity and Reliability Assessment.

	CR	AVE	MSV	MaxR(H)	Trust	PE	PI	Attitude	SI	PU	Perceived_EOU
<b>Trust</b>	0,841	0,570	0,596	0,844	<b>0,755</b>						
<b>PE</b>	0,821	0,511	0,681	0,877	0,679	<b>0,715</b>					
<b>PI</b>	0,842	0,641	0,598	0,862	0,763	0,728	<b>0,800</b>				
<b>Attitude</b>	0,873	0,632	0,681	0,878	0,772	0,825	0,773	<b>0,795</b>			
<b>SI</b>	0,840	0,638	0,417	0,862	0,588	0,507	0,491	0,646	<b>0,799</b>		
<b>PU</b>	0,884	0,718	0,587	0,885	0,614	0,710	0,563	0,766	0,501	<b>0,847</b>	
<b>PEOU</b>	0,897	0,685	0,536	0,900	0,504	0,705	0,605	0,699	0,558	0,732	<b>0,828</b>

PU (Perceived Usefulness), PEOU (Perceived Ease of Use), PE (Perceived Enjoyment), SI (Social Influence), TR (Trust), ATT (Attitude), and PI (Purchase Intention) have CR values as 0.884, 0.897, 0.821, 0.840, 0.841, 0.873 and 0.842 respectively. All variables of CR show values higher than the threshold value of 0.7 which makes it acceptable.

The AVE values of PE, PU, ATT, TR, PEOU, PI, and SI are 0.511, 0.718, 0.632, 0.570, 0.685, 0.641 and 0.638 respectively. All variables of AVE show values greater than the threshold value of 0.5 which makes it acceptable.

MSV values of PU, PEOU, SI, and PI are 0.587, 0.536, 0.417, 0.582, and 0.598 respectively. The MSV values of PE, TR, and ATT are 0.681, 0.596, and 0.681 respectively and they are a little greater than the AVE threshold value and thankfully it seems not to be a significant problem by considering their reliability and convergent validity measurers.

## 5.4 Collinearity Assessment

Concerning the data review, this study has as well evaluated the assessment of collinearity. Collinearity occurs whenever various independent variables appear to evaluate the same thing, which is unwanted. A commonly used process to do the measurement of the collinearity level among variables is to run a linear analysis in statistical software such as SPSS. Few limits for the assessing of collinearity are suggested below:

- Tolerance values which are less than 0.10 indicate a good indicator of multivariate collinearity
- Variance Inflation Factor (VIF) which are greater than 10.0 indicates a is a good indicator of multivariate collinearity

The use of SPSS software and the execution of the regressions of collinearity made it possible to separately measure Tolerance and VIF for the independent variables. According to Kline (2011), the obtained results, the problems of multivariate collinearity could not be found. The tables 5.4, 5.5, 5.6, 5.7 and 5.8 show the summaries of each independent variable results.

**Table 5.4:** Dependent Variable: Total PU.

Models	Collinearity Statistics	
	VIF	Tolerances
Total PE	1.503	0.665
Total PSI	1.452	0.689
Total PEOU	1.744	0.573
Total T	1.459	0.685

**Table 5.5 :** Dependent Variable : Total PEOU.

Models	Collinearity Statistics	
	VIF	Tolerances
Total PSI	1.363	0.734
Total PU	1.757	0.569
Total PE	1.441	0.694
Total T	1.617	0.618



**Table 5.6** : Dependent Variable : Total PSI

Models	Collinearity Statistics	
	VIF	Tolerances
Total PEOU	2.017	0.496
Total PE	1.577	0.634
Total PU	2.165	0.462
Total T	1.462	0.684

**Table 5.7** : Dependent Variable : Total PE.

Models	Collinearity Statistics	
	VIF	Tolerances
Total PEOU	1.964	0.509
Total PU	2.064	0.485
Total PSI	1.452	0.689
Total T	1.606	0.623

**Table 5.8** : Dependent Variable : Total T.

Models	Collinearity Statistics	
	VIF	Tolerances
Total PE	1.566	0.639
Total PU	1.953	0.512
Total SI	1.313	0.762
Total PEOU	2.149	0.465

### 5.5 Confirmatory Factor Analysis (CFA)

Confirmatory factor analysis known as CFA is defined as a statistical technique that verifies the compatibility of measurements with the nature of the construction in question. For this study, confirmatory factor analysis (CFA) was performed in SPSS AMOS version 21.

**Table 5.9: CFA - Unstandardized Regression Weights**

			Estimate	S.E.	C.R.	P
T1	<---	Trust	1,000			
T3	<---	Trust	1,068	,112	9,541	***
T4	<---	Trust	1,098	,111	9,886	***
PE2	<---	Perceived_Enjoyment	1,494	,649	2,301	,021
PE3	<---	Perceived_Enjoyment	1,574	,686	2,296	,022
PE4	<---	Perceived_Enjoyment	1,654	,717	2,305	,021
PE5	<---	Perceived_Enjoyment	1,548	,675	2,294	,022
PE1	<---	Perceived_Enjoyment	1,000			
PI1	<---	Purchase_Intention	1,000			
PI2	<---	Purchase_Intention	1,015	,091	11,122	***
PI3	<---	Purchase_Intention	,968	,093	10,442	***
PSI1	<---	Social_Influence	1,000			
PSI3	<---	Social_Influence	,884	,092	9,628	***
PSI4	<---	Social_Influence	,846	,090	9,349	***
ATT1	<---	Attitude	1,000			
ATT2	<---	Attitude	,860	,070	12,240	***
ATT3	<---	Attitude	,882	,075	11,786	***
ATT4	<---	Attitude	,945	,068	13,969	***
PU3	<---	Perceived_Usefulness	,985	,068	14,469	***
PU2	<---	Perceived_Usefulness	,954	,069	13,918	***
PU1	<---	Perceived_Usefulness	1,000			
PEOU1	<---	Perceived_EOU	1,000			
PEOU2	<---	Perceived_EOU	1,045	,069	15,072	***
PEOU3	<---	Perceived_EOU	1,052	,077	13,725	***
PEOU4	<---	Perceived_EOU	1,040	,077	13,444	***
T6	<---	Trust	1,058	,102	10,401	***

As reported by Kline (2011) for the CFA procedure, at least two indicators are required for each factor. This study contained for each variable a maximum of five and a minimum of three indicators. With the purpose of measuring the

observed variable's relative strength to define the latent variable, Standardized Regression Weights were acquired. Generally, a strong contribution is shown by the estimated values (Table 5.10). As Byrne (2010) said, the research model was hypothesized and tested its quality of fit with an assist of obtained data in accordance with the literature review. The hypothetical model is shown in Figure 5.7.

**Table 5.10:** Standardized Regression Weights.

			Estimate
T1	<---	Trust	,728
T3	<---	Trust	,735
T4	<---	Trust	,761
PE2	<---	Perceived_Enjoyment	,810
PE3	<---	Perceived_Enjoyment	,768
PE4	<---	Perceived_Enjoyment	,842
PE5	<---	Perceived_Enjoyment	,757
PE1	<---	Perceived_Enjoyment	,170
PI1	<---	Purchase_Intention	,706
PI2	<---	Purchase_Intention	,879
PI3	<---	Purchase_Intention	,807
PSI1	<---	Social_Influence	,886
PSI3	<---	Social_Influence	,763
PSI4	<---	Social_Influence	,740
ATT1	<---	Attitude	,824
ATT2	<---	Attitude	,766
ATT3	<---	Attitude	,746
ATT4	<---	Attitude	,841
PU3	<---	Perceived_Usefulness	,867
PU2	<---	Perceived_Usefulness	,841
PU1	<---	Perceived_Usefulness	,834
PEOU1	<---	Perceived_EOU	,858
PEOU2	<---	Perceived_EOU	,853
PEOU3	<---	Perceived_EOU	,804
PEOU4	<---	Perceived_EOU	,793
T6	<---	Trust	,795

As stated by Hooper, Coughlan and Mullen (2008) many researchers classified indices according to three kinds of model fit:

- The complete fit indices consist of AGFI, GFI, RMSEA, SRMR, and  $\chi^2/df$ .
- The Incremental fit indices consist of two NFI and CFI.

- The Parsimony fit indices consist of CAIC and AIC; PNFI and PGFI.

The thresholds to help identify the fit goodness are suggested below:

- The CFI value must be greater or equal to 0.95 (Schreiber et al., 2006); (Bentler & Hu, 1999).
- P-value is greater than 0.05 (Hooper et al., 2008).
- The AGFI value must be greater or equal to 0.80 and the more the value is near to 1.00 the more the fit shows a good level (Byrne, 2010).
- The GFI value must be greater or equal to 0.95 and the more the value is near to 1.00 the more the fit shows a good level (Byrne, 2010).

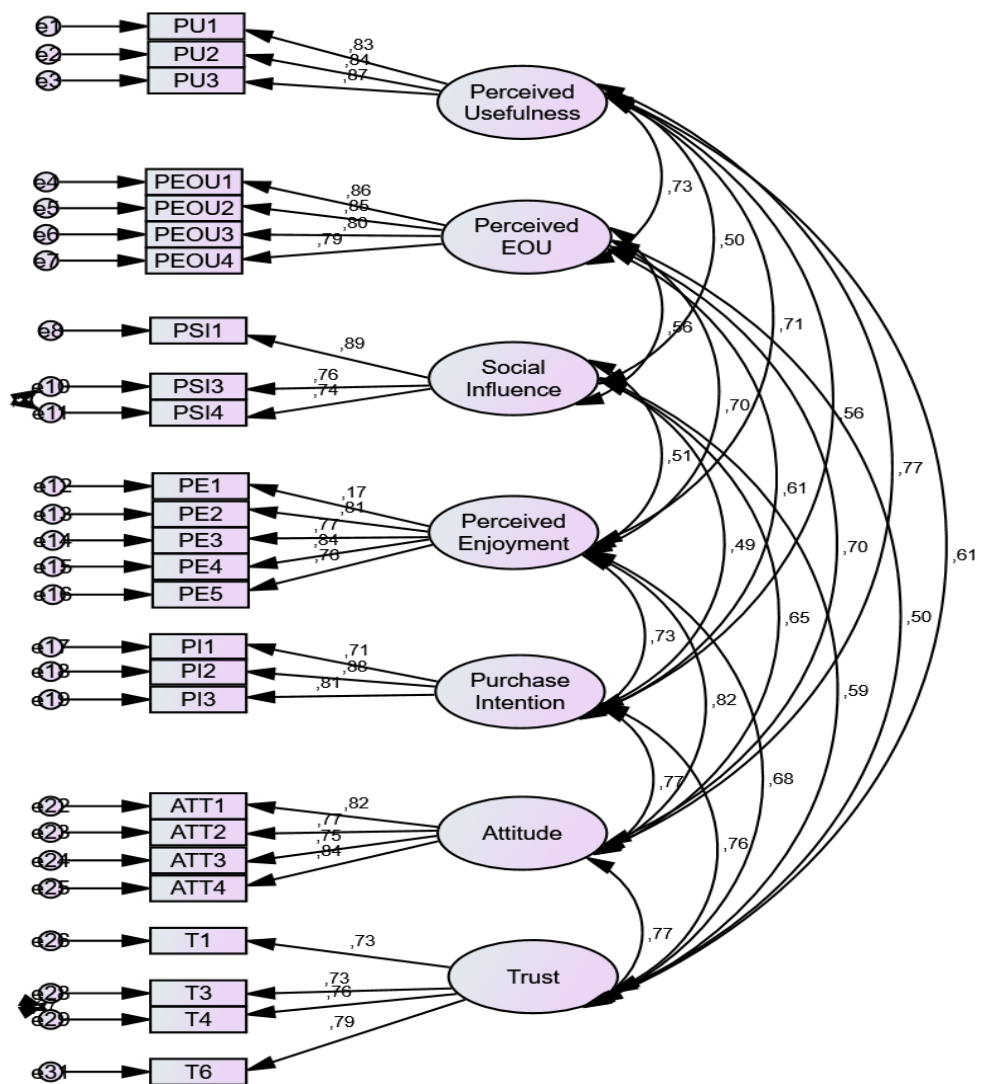


Figure 5.7: CFA Model

- RMSEA – values less or equal to 0.06 or to 0.08 (Schreiber et al., 2006) or those between 0 and 0.08 (Hooper et al., 2008) show a fit with a good level.
- PCLOSE greater than 0.05 (Byrne, 2010)
- SRMR must be less or equal to 0.05 (Byrne, 2010) or less and equal to 0.08 (Schreiber et al., 2006).

The present study includes a total of 26 observed items for 7 variables in total. The measuring of perceived usefulness was done with 3 items, 4 items for the perceived EOU, 3 items for Social influence, 5 items for perceived enjoyment, 4 items for trust, and 3 items for the purchase intention.

The illustrated model in figure 5.6 was modified after some recalculations and revaluations based on the adjustment records obtained by Amos version 21. Testing the degree is considered as the main goal of confirmatory factor analysis to which the perceived variables are related to their latent structure. Adjustment indicators suggest reforms that must be made to resolve conflicts between the proposed and evaluated model. Since the regression lines have been already applied between the observed variants and latent factors, the regression line of the CFA can't be added to repair a model in it which makes the modification indices role very significant. Thus, the modification indicators related to changes are considered in CFA. Further, the modification indices that have greater value are more likely to be prioritized to start with and, the covariance cannot be done between terms of errors that are not part of the same factor.

In the aim of getting the greatest fit model e10, e11, e28, and e29 have been covaried within the current study. 351 distinct sample moments were identified through the long process of CFA analysis which is referring to the number of factors existing in the sample covariance matrix. There was an estimation of 75 parameters that leave 276 degrees of freedom. The value of Chi-square was 539,53 which lead to a probability level equal to 0.000. The examination of the model fit of the hypothesized model is shown in table 5.10. Verifying earlier cited parameters (opportunity level, Chi-square, and p-esteem) could be seen as the first phase for a quick overview regarding model fit.

**Table 5.11:** Model Fit Analysis for CFA.

Measures	Results
CMIN/DF	1.955
Chi-square (CMIN)	539.53
CFI	0.926
GFI	0.838
P-value	0.000
RMSEA	0.069
AGFI	0.794
PCLOSE	0.000
.....	0.067

As mentioned by Huber, Kovlan, and Mullen (2008), Hu and Bentler's research (1999) distinguishes that the value of Chi-Square is a popular statistical measurement employed to assess generic goodness of fit that measure nonconformity degree among the sample and the fitted covariance matrices. Moreover, it is recognized to be very susceptible to the size of the sample.

The good model fit may be observed whenever  $\chi^2/df$  is under a value equal to 2,  $\chi^2/df$  assessment of the current study is equal to 1.955 indicates one of the first goodness-of-fit indications.

PCLOSE is defined as a measure that shows an excellent level of RMSEA within people and portrays the proximity of adjustment (Byrne, 2010). PCLOSE value in the current study is equal to 0.000, which is not acceptable because it does not reach the level of threshold.

In 1980 Lind and Steiger have both introduced and developed the RMSEA (Root Mean Square Error of Approximation). It was acknowledged as a major instructive fit index in current years cause of its value sensitiveness to the number of estimated parameters in the model. The model is well fit in the present study with an RMSEA value of less than 0.08.

SRMR (Standardized Root Mean Square Residual) represents another perfect fit's measuring associated with the residuals of correlation. The difference between hypothesized and observed correlation matrices can be demonstrated by SRMR. As stated by Kline (2011) SRMR become sensitive toward element covariances that are not detected in CFA throughout the examination of

measurement models. The model fit of the present study can be accepted because the value of SRMR is 0.067 and less than 0.08.

Fidell and Tabachnick (2007) showed that the GFI (Goodness of Fit Index) was presented by Sorbom and Jöreskog as an alternative to AGFI (adjusted goodness of fit index) and Chi-Square test is associated to GFI on the basis of the degree of freedom with the inclusion of a saturated model reducing fit. As indicated by Hooper, Coughlan, and Mullen (2008) the measurement of nonconformity between the covariance matrix and the fitted model is calculated by both AGFI and GFI. The threshold requested by Byrne (2010) has been adopted in this study resulting from the AGFI and GFI sensitivity towards the size of the sample. The value that is close to 1.00 in this threshold shows a good model fit. The finding of FGI in the present study is 0.838 which respectively feat the suggestions. On the other hand, the finding of AGFI is equaled to 0.794 which is a little bit less than the threshold but can be considered as permissible.

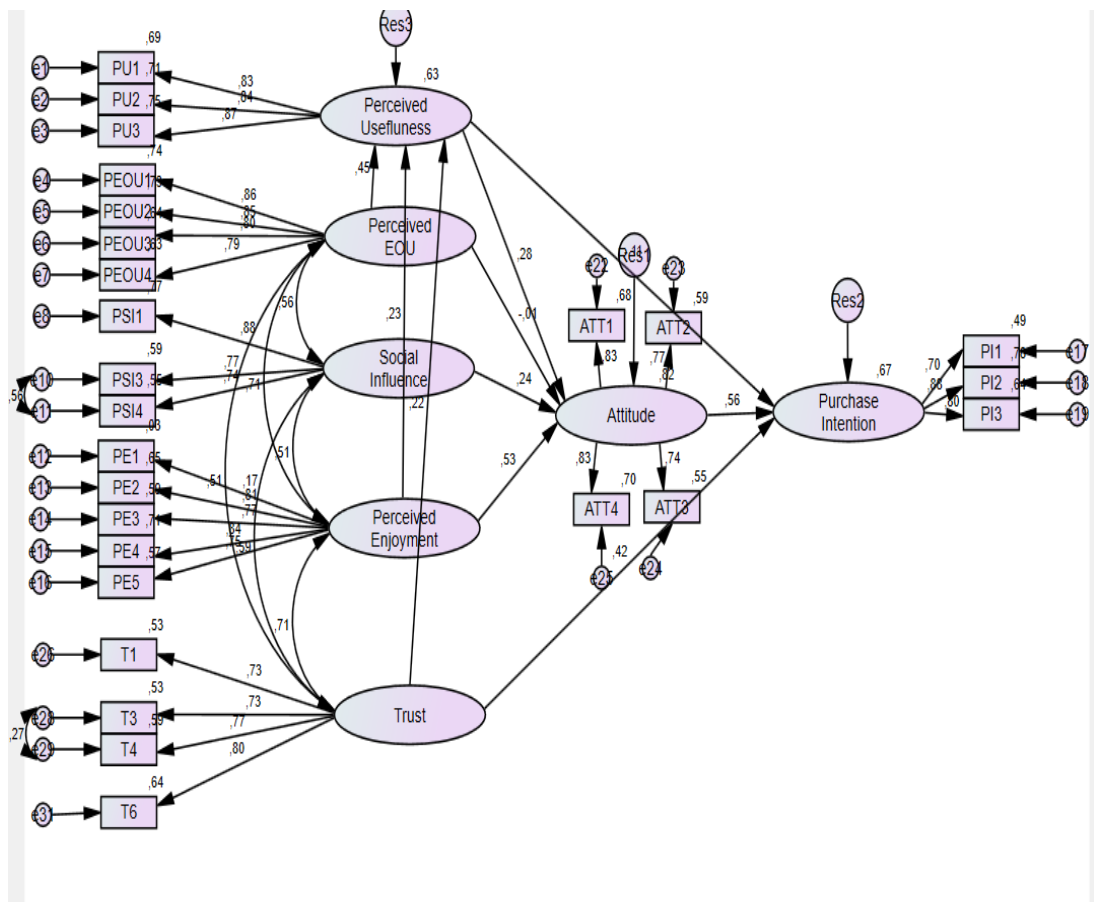
Normed Fit Index (NFI) has a tendency of not being reliable regarding large sample sizes, and the model fit was recommended to be evaluated by CFI (Competitive Fitness Index) (Byrne, 2010). According to Bentler and Hu (1999), CFI thresholds must have a value greater than 90 or greater and equal to 0.95. The model of the current study is fit with a value of CFI equal to 0.926. According to all results mentioned above, and based on the collected data it can be concluded that the hypothesized model revealed a good fit.

## **5.6 Structural Equation Model (SEM)**

Although the CFA verify the relationship between the latent variables and their measures, the structural Equation Modeling (SEM) emphasizes on the analysis and the evaluation of the relationships between the latent variables of the suggested model. Additionally, the difference between SEM and CFA is that SEM expands the possibility of the relationship among the latent variables and encloses 2 sections:

- Structural model
- Measurements model (CFA)

The structural model is the focused part of this chapter where the interrelationship between latent and observable constructs is provided in Figure 5.10 in the proposed model there where various regression equations occur. This model involves indirect and direct effects. An indirect effect portrays the exogenous effects (independent variable) on an endogenous (dependent variable) by a mediating variable. A direct effect portrays the exogenous effects (independent variable) on an endogenous (dependent variable). (Kenny & baron, 1986).

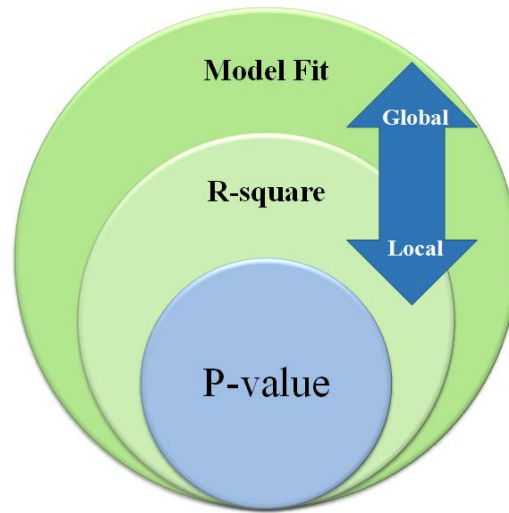


**Figure 5.8:** Structural Equation Model.

Local and global tests will be done for the evaluation of the hypothesis (Figure 5.8). Fundamentally, to perform the supported hypothesis It is important to success the local test. To support a hypothesis, it is essential that all the global tests be successful so that the local tests make sense and meaningful. All hypotheses with an important p-value can lose their reliability if their fit of the model is poor. R-squared is the other global test to be carried out, when there is a good model fit and an important p-value but involving a low R-square then



hypotheses will be unsupported due to the unreflected sufficient variance in the dependent variable (endogenous).



**Figure 5.9:** Hypotheses Support through Global and Local Tests

Source: Gaskin, 2016.

The model fit statistical results concerning the SEM are shown in Table 5.12. And according to the obtained findings, the hypothesized structural equation model is considered to generally have good fit.

**Table 5.12:** Model of Fit Metrics for Structural Model

Measures	Results
CMIN/DF	1.989
Chi-square (CMIN)	558.785
CFI	0.921
GFI	0.835
P-value	0.000
RMSEA	0.070
AGFI	0.794
PCLOSE	0.000
.....	0.070

The SEM R-squared also known as Squared Multiple Correlations (SMC) is identified by Byrne (2010) as an indicator of variance level that the factors predictors reflect in question. When the R-squared value gets higher, the sample data are better matches the model. Table 5.13 shows the SMC values for the

hypothetical structural model, on the basis of the results, it can be deduced generally that the predictors show better respective variables relatively.

**Table 5.13:** Squared Multiple Correlations

	Estimate
Perceived_Usefulness	,630
Attitude	,816
Purchase_Intention	,672
T6	,638
T4	,587
T3	,531
T1	,527
ATT4	,697
ATT3	,549
ATT2	,593
ATT1	,683
PI3	,641
PI2	,780
PI1	,495
PE5	,567
PE4	,709
PE3	,590
PE2	,648
PE1	,028
PSI4	,555
PSI3	,587
PSI1	<u>,767</u>
PEOU4	,626
PEOU3	,645
PEOU2	,725
PEOU1	,743
PU3	,752
PU2	,710
PU1	,692

On the basis of the results of the tested hypotheses, inferences are shown in table 5.14:

- Perceived Usefulness is not associated with Purchase Intention. Therefore, Perceived Usefulness does not affect customers' purchase intention. (H1:  $\beta = -0.115$ , S.E.= 0.105 and p-value= 0.273)

H1: Perceived Usefulness affects positively customers 'purchase intention = **Not Supported**

- Perceived Usefulness is associated positively with Attitude. Therefore, Perceived Usefulness positively affects customers' brand attitude (Attitude). (H2:  $\beta = 0.275$ , S.E.= 0.086 and p-value= 0.001)

H2: Perceived Usefulness affects positively customers' brand attitude = **Supported**

- Perceived Ease of Use is positively related to Perceived Usefulness thus Perceived Ease of Use positively affects the perceived usefulness. (H3:  $\beta = 0.475$ , S.E.= 0.094 and  $p < 0.001$ )

H3: Perceived Ease of Use affects positively the perceived usefulness = **Supported**

- Perceived Ease of Use is not related to Attitude thus Perceived Ease of Use does not affect customers' brand attitude (Attitude). (H4:  $\beta = -0.005$ , S.E.= 0.089 and p-value= 0.952)

H4: Perceived Ease of Use affects positively customers' brand attitude = **Not Supported**

- Perceived Social Influence is positively related to Attitude thus Perceived Social Influence positively affects customers' brand attitude (Attitude). (H5:  $\beta = 0.177$ , S.E.= 0.047 and  $p < 0.001$ )

H5: Perceived Social Influence affects positively customers' brand attitude = **Supported**

- Perceived Enjoyment is associated positively with Attitude therefore Perceived Enjoyment positively affects customers' brand attitude (Attitude). (H6:  $\beta = 0.897$ , S.E.= 0.419 and p-value= 0.032)

H6: Perceived Enjoyment affects positively customers' brand attitude=  
**Supported**

- Perceived Enjoyment is not associated with Perceived Usefulness therefore Perceived enjoyment does not affect the perceived usefulness. (H7:  $\beta = 0.391$ , S.E.= 0.258 and p-value= 0.129)

H7: Perceived enjoyment affects positively the perceived usefulness = **Not Supported**

- Trust is associated positively with purchase intention therefore Trust positively affects customers 'purchase intention. (H8:  $\beta = 0.550$ , S.E.= 0.131 and  $p < 0.001$ )

H8: Trust affects positively customers' purchase intention= **Supported**

- Trust is associated positively with perceived usefulness therefore Trust positively affects the perceived usefulness. (H9:  $\beta = 0.289$ , S.E.= 0.120 and p-value= 0.016)

H9: Trust affects positively the perceived usefulness = **Supported**

- Attitude is associated positively with purchase intention therefore Attitude positively affects customers 'purchase intention. (H10:  $\beta = 0.566$ , S.E.= 0.128 and  $p < 0.001$ )

H10: Customers' attitude toward the brand affects positively consumers' purchase intention= **Supported**

\*\*\* $p < 0.001$

**Table 5.14: Regression Weights (SEM)**

			Estimate	S.E.	C.R.	P
Perceived_Usefulness	<---	Perceived_EOU	0.475	0.094	5.041	***
Perceived_Usefulness	<---	Perceived_Enjoyment	0.391	0.258	1.519	0.129
Perceived_Usefulness	<---	Trust	0.289	0.120	2.402	0.016
Attitude	<---	Perceived_Usefulness	0.275	0.086	3.213	0.001
Attitude	<---	Perceived_EOU	-0.005	0.089	-0.060	0.952
Attitude	<---	Social_Influence	0.177	0.047	3.747	***
Attitude	<---	Perceived_Enjoyment	0.897	0.419	2.141	0.032
Purchase_Intention	<---	Attitude	0.566	0.128	4.439	***
Purchase_Intention	<---	Perceived_Usefulness	-0.115	0.105	-1.095	0.273
Purchase_Intention	<---	Trust	0.550	0.131	4.187	***

**Table 5.15:** Results of Hypotheses Testing.

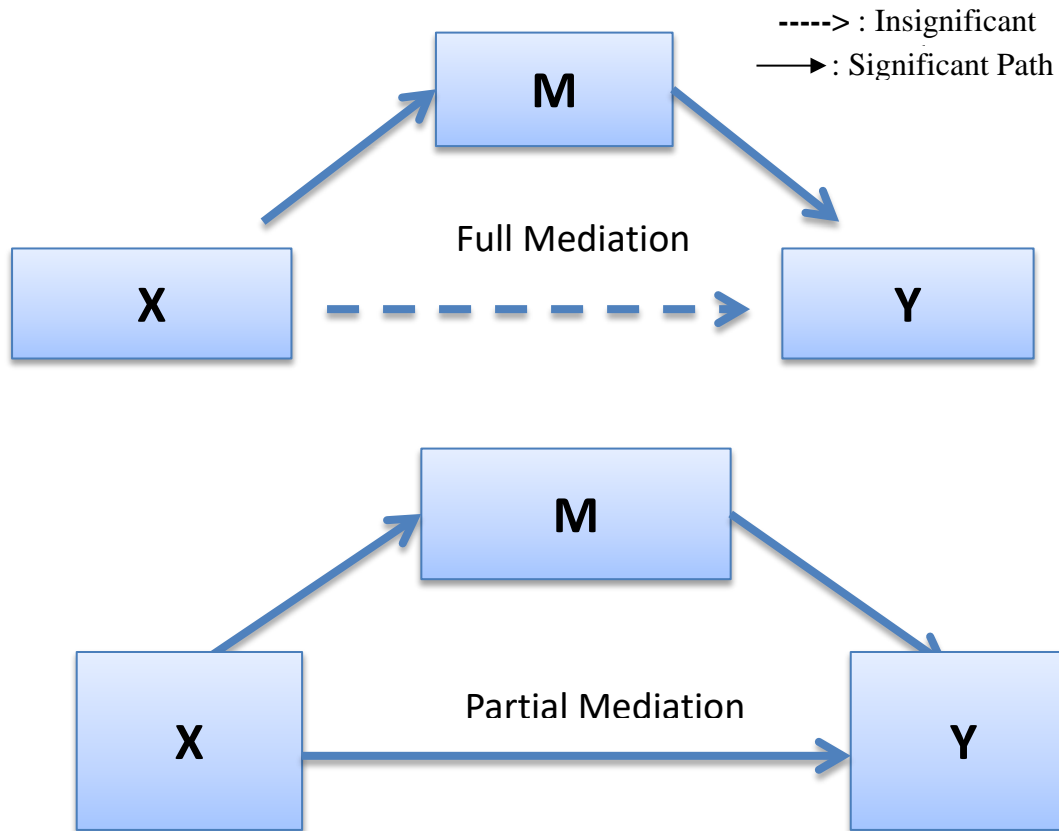
Hypotheses	Relationships	Status
H1	PI ← PU	Not Supported
H2	ATT ← PU	Supported
H3	PU ← PEOU	Supported
H4	ATT ← PEOU	Not Supported
H5	ATT ← SI	Supported
H6	ATT ← PE	Supported
H7	PU ← PE	Not Supported
H8	PI ← TR	Supported
H9	PU ← TR	Supported
H10	PI ← ATT	Supported

### 5.7 Mediation Effect Analysis

Mediation analyses are used to understand a known relationship by exploring the underlying mechanism or process by which one variable affects another variable through a mediating variable. In particular, mediation analysis can help provide a better understanding of the relationship between a dependent variable and an independent variable when those variables do not have a clear direct connection (Cohen & West & Aiken, 2003).

A mediator variable can either account for all or some of the observed relationships between two variables. Complete mediation, also called full mediation is when the entire relationship between the independent and dependent variables is through the mediator variable which means there is an indirect effect but no direct effect and if the mediator is taken away the relationship disappears (Baron & Kenny, 1986).

Partial mediation is the case when there are both indirect and direct effects and it happens when the mediating variable is only responsible for a part of the relationship between independent and dependent variables. So if the mediating variable is eliminated, there will still be a relationship between the independent and dependent variables (Baron & Kenny, 1986). And these relationships must be significant to be called partial mediation.



**Figure 5.10:** Full and Partial Mediation

Source: Gaskin, 2015

In order for either full or partial mediation to be established, there are a few different techniques to evaluate a mediation model. It can be evaluated by the Sobel test which is performed to determine whether the relationship between the independent variable and the dependent variable was significantly reduced after the inclusion of the mediator variable; however, it does have low statistical power. As such, large sample sizes are required in order to have sufficient power to detect significant effects (Sobel, 1982) or it can also be evaluated by the bootstrapping method which is defined by Preacher and Hayes (2004) as a non-parametric method based on resampling with a replacement that is done many times. They also said that bootstrapping involves repeatedly randomly sampling observations with replacement from the data set to compute the desired statistic in each resample. Hayes proposed a macro that can calculate directly bootstrapping within SPSS. This method provides point estimates and confidence intervals by which one can assess the significance or non-

significance of a mediation effect. Point estimates reveal the mean over the number of bootstrapped samples and if zero does not fall between the resulting confidence intervals of the bootstrapping method, it can be concluded with certainty that there is a significant mediation effect to report.

In this study the bootstrapping method was employed to evaluate the mediation. It was automatically evaluated and calculated by the SPSS AMOS by checking the p-value of the estimate whether it is significant or not.

**Table 5.16:** Mediation Effect Analysis

Hypothesis	Directeffect (x->y)	Indirecteffect	Result
PU->ATTD->PI	-0.114 (NS ; p=0.083)	0.155*(SG ; p=0.022)	Full Mediation
T->PU->PI	0.421* (SG ; p=0.004)	-0.033(NS ; p=0.629)	Direct Effect
T->PU->ATTD->PI		0.045*(SG ; p=0.049)	Full Mediation
PEOU->ATTD->PI	0.248 (NS ; p=0.160)	-0.003 (NS ; p=0.938)	
PEOU->PU->PI		-0.055(NS ; p=0.287)	
PEOU->PU->ATTD->PI		0.074*(SG ; p=0.013)	Full Mediation
PE->ATTD->PI	0.116 (NS ; p=0.609)	0.508(SG ; p=0.012)	Full Mediation
PE->PU->PI		-0.045(NS ; p=0.262)	
PE->PU->ATTD->PI		0.061*(SG ; p=0.038)	Full Mediation
SI->ATTD->PI	-0.150 (NS ; p=0.239)	0.137*(SG ; p=0.009)	Full Mediation

\*= p<0.05 SG =significant NS= not significant p= p-value

Table 5.16 shows that there is a significant direct effect on the relationship between trust and purchase intention. For the indirect effect of trust, two different indirect effect paths exist where the first path from (T->PU->PI) has no significant effect, and the second path from (T->PU->ATTD->PI) has a significant relationship.

The direct effect of perceived ease of use perceived enjoyment and social influence to purchase intention was calculated to check whether or not they give a significant relationship. However they did not show any significant relationship.

Perceived usefulness and social influence not only positively influence Attitude but also positively and indirectly influences Purchase Intention through Attitude.

Perceived enjoyment has different indirect effect paths where the path from (PE->ATTD->PI) and the path from (PE->PU->ATTD->PI) have a significant relationship.

Thus Attitude acts as a mediator between perceived usefulness, social influence and perceived enjoyment factors and purchase intention.

Perceived ease of use has different indirect effect paths where only the path from (PEOU->PU->ATTD->PI) has a significant relationship.



## **6. CONCLUSION AND DISCUSSION**

### **6.1 Conclusion and Findings Discussion**

Taking into account the current trend of gamification and its great growth potential in the marketing market and its growth in influencing and engaging more customers in different fields by using game-like strategies, this thesis focused on the influence of gamification on consumers' attitude and intention to purchase fast-moving consumer goods, especially consumers living in Turkey.

Gamification is recently considered as a very important tool for both business and consumers, as it helps to make the interaction with customers more entertaining and fun which lead to gain new customers; and it also helps customers to have a better and enjoyable experience by introducing their product in a fun way which helps them to be more familiar with the product. Many gamification resolutions in this regard have been revealed on the basis of a literature review conducted in this context. This study also investigates the influence of the factors of gamification on consumers' attitude and purchase intention; among all these factors, attitude represents the mediator variable. Also, to understand the effects of similar influencing factors are important and can be advantageous for both the academic field as well as the marketing business industry.

The total number of voluntary participants in this study was 200. The data analysis of this study was done with SEM and CFA. The testing of the model fit of the hypothesized model was done within the scope of CFA CFI, SRMR, RMSEA,  $\chi^2/df$ , AGFI, GFI, and PCLOSE. A good fit model is shown in the results. SEM analysis covered hypotheses testing that included both global and local tests. The model fit evaluation has shown a well fit and on the basis of the analysis of squared R. The respective variable was explained very effectively by predictors. A local test was carried out following the global test with regard to the p-value. In accordance with the hypotheses testing summary, there seven

proposed hypotheses were statistically supported and three of them were not supported. Perceived usefulness is the first factor of Gamification and has a significant direct influence on customers' brand attitude. According to previous work such as SoroaKoury & Yang, 2010; Hosseini, Hakim, Shoja, Ghabili and Alakbarli (2011), perceived usefulness positively influence brand attitudes. The current study consequently, affirms their results because its finding supports their findings with a positive relationship between the attitude and perceived usefulness which have a p-value less than 0.05. But the relationship between perceived usefulness and purchase intention was not found to be significant. The finding of these two relationships got a  $p > 0.10$  which indicated that perceived usefulness does not positively affect customers' purchase intention.

The second factor, perceived ease of use does not positively relate to attitude which also confirms the work of previous studies of SoroaKoury et al., (2010) and Hosseini et al. (2011). However, there is positive relationship between perceived ease of use and perceived usefulness with  $p\text{-value} < 0.05$  which leads to conclude that perceived ease of use positively affects the perceived usefulness. In the case of Perceived enjoyment, it was proved to be a strong predictor for the brand's attitude in the process of gamification, and it was found to significantly impact the attitude of the brand in the process of gamification for marketing purposes with a p-value  $p < 0.05$ . This is in line with the advergame study that Wise, Kim, Meyer, Bolls and Venkataraman (2008) studied and pointed out that game enjoyment affects remarkably the brand attitude. But on the other hand, perceived Enjoyment is not positively related to perceived usefulness with a  $p\text{-value} > 0.10$ . Thus, Perceived enjoyment does not positively affect the perceived usefulness. Perceived social influence is the next factor of Gamification which, in a gamified marketing context has also a strong direct influence on customers 'brand attitude. The finding discloses a positive relationship between perceived social influence and attitude with  $p\text{-value} < 0.05$ . This study is consistent with Hamari and Koivisto (2013) who indicated that in gamification the social aspects play a major part like playing games and recognize social factors such as social impacts that participate in the use of intentions and attitudes toward the services of gamification. Trust is the fifth factor of Gamification and has also significant direct influence on customers'

purchase intention. The results show a positive relationship between trust and purchase intention with  $p\text{-value} < 0.05$ . This finding claims that trust positively affects customers' purchase intention. And another positive relationship between trust and perceived usefulness with  $p < 0.05$  thus Trust positively affects the perceived usefulness. The result of the Attitude revealed that the hypothesis between consumer attitude and purchase intention is accepted with high significance with a  $p < 0.05$ , and according to previous studies such as the studies of Ajzen, (1991); Chen, (2007); Hartman and Ibanez, (2012); Malhotra and Galletta (1999) affirm that attitude positively affect the intention and for those who have positive attitudes toward a particular behavior, will carry out that specific behavior instead of others.

The mediation analysis was evaluated by bootstrapping. It was automatically evaluated and calculated by the SPSS AMOS by checking the p-value of the estimate whether it is significant or not.

The results show that there is a significant direct effect on the relationship between trust and purchase intention and a significant indirect effect from Trust to Perceived usefulness to attitude to purchase intention. The perceived ease of use has different indirect effect paths where only the path from Perceived ease of use to perceived usefulness to attitude to purchase intention has a significant relationship. The Perceived enjoyment has different indirect effect paths as well, where the path from perceived enjoyment to attitude to purchase intention and the path from perceived enjoyment to perceived usefulness to attitude to purchase intention have a significant relationship.

And perceived usefulness and social influence not only positively influence Attitude but also positively and indirectly influences Purchase Intention through Attitude. Thus Attitude acts as a mediator between perceived usefulness, social influence and perceived enjoyment factors and purchase intention.

## **6.2 Implication**

This study's results give various theoretical implications which further are added to the literature in many influential ways, especially to the literature of marketing, it contributes by supplying expansions to TAM model used by

marketers in the context of gamification. Following past researches, the findings affirmed that TAM is a legitimate theory not only in the context of the adoption of an information system but including as well in the marketing system evaluation. Moreover, in light of the expanded model, through this examination some positive and beneficial impacts of gamification in FMCG have been revealed for marketing purpose. It is in this context that certain players in the FMCG sector, which is a very important market and which influences most of our daily activities are turning more and more towards gamification by adopting original and innovative methods based on the game to entertain potential buyers and encourage them to buy their products and thus create a loyal clientele. The entertainment and fun that perceived enjoyment contributes to a gamified brand are more to drive positive attitudes toward that brand and the research study highlights on the importance of enjoyment with attitude of consumer, however, getting that much fun and enjoying the gamified experience does not motivate the consumers enough to buy the product. It is more likely to make them engaged with that brand so in the future they can buy or be loyal to it. On the other hand, trust was considered to be very significant through this finding; consumers are ready to buy the product if it is related to their preferred brand. It also shows the importance of trust which helps to enhance the brand-consumer relationship. Therefore, make the consumer have a strong belief and faith in the brand's future products and services that expected to meet their expectation. Game designers or marketers should focus more on components that can provide better fun experiences and enjoyable perceptions while playing the game or using the gamified application, especially taking into consideration consumers' opinions or expectations from a gamified FMCG platform. Indeed, the use of online games are quite addictive and provide mental stimulation and entertainment value for adults which can give amazing results for the brand by creating a certain familiarity with the brand's products. In addition, online games have to be fairly easy to play and keep people engaged longer compared to traditional banner ads. For instance, as in the design of games, the process of enjoyable components of gamification could be the reward system, engaging interaction, or competition with other participants. In addition, marketers need to focus more on how to win consumers' hearts and gain their trust. This will give the brand more chance for its product to be bought by the consumer and for

its gamified platform to get more attention. Lastly, studying the relationship between the attitude to a specific brand and the purchase intention with the gamification marketing process may potentially allow marketers to enhance the intention of participants during their marketing activities performance and theoretically, by filling the knowledge hole on the relationship between brand attitude and purchase intention.

The finding of the mediation analysis conducted for this study seems to give important results where the Attitude toward the brand mediates the relationship between Perceived Usefulness, Social Influence, Perceived Enjoyment, and Purchase Intentions. The Perceived Usefulness and Social Influence not only positively influence Attitude but also positively and indirectly influence Purchase Intention through Attitude. The results confirm that full mediation exists in the model. On the other hand, Trust has a direct impact on purchase intention. However, it was found that it can have a significant relationship indirectly with Purchase Intention through multi mediation. Perceived Ease of Use and Perceived Enjoyment also have a significant indirect effect on the Purchase Intention through multi mediation. So this implies that not only one mediator can influence significantly and positively the purchase intention but multi mediator can as well.

In practice, this study might fill the gap in consumer behavior literature by identifying important mediator which might be a source of indication for marketing researchers in the future. And the proposed and tested model might as well be helpful for the practitioners in the marketing sector to formulate their brand positioning and digital marketing strategies.

### **6.3 Future Researches and Limitations**

Mainly, this research attempted to describe a comprehension of the characteristics of the gamification influence on consumers' attitudes toward purchase intention. Although the results obtained seem to motivational, certain limits must be taken into account in this research. First, on the basis of accessibility ease the data was gathered and used for analysis. Second, although the respondents, before completing the surveys, received detailed information related to its purpose, the surveys were of the self-reported type. Third, basing

on the literature collected as part of the study, just five gamification characteristics were analyzed. There could be other critical Gamification characteristics that have a serious impact on the attitude of consumers living in Turkey. In addition, the obtained results will probably not be available and accessible after a period of time, and the model may require particular adjustments and updates later. Finally, during the research period, a short period of time was one of the other restrictions that the researcher was confronted with. Gamification is considered a new word, where different possibilities exist in which they may conduct further study on the use of Gamification. Considering the limitations mentioned above future researchers might lead further studies while using the model in this as an extensible basic model. In addition, future studies can concentrate on the component of the game design and what element design can make a game increasingly enjoyable as well as progressively helpful in the proceeding of Gamification. This will have impressive managerial involvement for companies and organizations from all industries in the marketing era that desire to accomplish marketing benefits by Gamification.

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## **APPENDIX**

**Appendix A** : Survey questionnaire sources

**Appendix B** : Survey Questionnaire (English Version)

**Appendix C** : Survey Questionnaire (Turkish Version)

**Appendix D**: Ethics Approval Form

## Appendix A : Main Survey Items Sources

Variable	Nº	V-code	Question	Source
Perceived Usefulness	1	PU1	The game effectively made me think about Oreo.	Hsu and Lu (2004)
	2	PU2	The game increased my familiarity with Oreo.	
	3	PU3	I found the game useful in the branding Oreo.	
Perceived Ease of Use	4	PEOU1	It was easy for me to learn how to play that game and compete with another person.	Hsu and Lu (2004)
	5	PEOU2	It was flexible for me to play that game and compete with people	
	6	PEOU3	It was easy to access the game and get another person to compete.	
	7	PEOU4	My interaction with this game is clear and understandable	Van der Heijden, Verhagen, and Creemers (2003)
Perceived Social Influence	8	PSI1	If my friends think it is fun to win the game competition and get the prize, I will do it.	Hsu and Lu (2004)
	9	PSI2	If my classmates / colleagues think it is fun to win the game competition and get the prize, I will do it.	
	10	PSI3	If my classmates/ colleagues like to join the game competition, I will do it as well.	
	11	PSI4	If people i know like to join the game competition, I will do it as well.	
Perceived Enjoyment	12	PE1	The game was interesting.	Wu and Liu (2007)
	13	PE2	The game made me feel enjoyable.	
	14	PE3	The game was a good way to spend my leisure	

			time.	
	15	PE4	The game involves me in an enjoyable process.	Wakefield et al. (2011)
	16	PE5	I felt excitement with the game animation.	
Purchase Intention	17	PI1	I would buy this product/brand rather than any other brands available.	Jalilvand & Samiei, 2012b).
	18	PI2	I am willing to recommend others to buy this product/brand.	
	19	PI3	I intend to purchase this product/brand in the future.	
	20	PI4	It is possible that I would buy this product.	Dodds et al., (1991), Lu et al., (2014)
	21	PI5	I will definitely try the product.	Prendergast et al. (2010)
Attitude	22	Att1	This activity makes me feel more emotionally bonded with Oreo brand now.	Yalcin and Demir (2009) , Park (2009)
	23	Att2	This activity evoked positive feelings about Oreo brand.	
	24	Att3	I shall be more inclined to buy Oreo brand from now on.	
	25	Att4	This activity makes me have intention to use other Oreo's service or products.	
Perceived Trust	26	T1	I believe that Oreo Company will continue to provide quality services to its customers.	HakJun Song, JunHui Wang, Heesup Han (2019)
	27	T2	I believe that Oreo Company strives to keep its promise to customers.	Delgado-Ballester and Aleman-Munuera (2001); Caceres and Paparoidamis

				(2007); Chaudhuri and Holbrook (2001)
	28	T3	As a FMCG, Oreo meets my expectations	HakJun Song, JunHui Wang, Heesup Han (2019)
	29	T4	Oreo never disappoints me	Hsieh and Huang (2004); Caceres and Paparoidamis (2007); Ballester and Aleman- Munuera (2001); Dixon, Bridson, Evans and Morrison (2005); Chaudhuri and Holbrook (2001).
	30	T5	Oreo brand is trustworthy	Delgado- Ballester and Aleman-Munuera (2001); Caceres and Paparoidamis (2007); Chaudhuri and Holbrook (2001)
	31	T6	This brand would make any effort to satisfy me	Hsieh and Huang (2004); Caceres and Paparoidamis (2007); Ballester and Aleman- Munuera (2001); Dixon, Bridson, Evans and Morrison (2005); Chaudhuri and Holbrook (2001).

## **Appendix B : Survey Questionnaire (English Version)**

The Influence of Gamification on Consumers' Attitude and Intention to Purchase Fast Moving Consumer Goods (FMCG):

- Gamification: Gamification is the process of taking something that already exists – a website, an enterprise application, an online community – and integrating game mechanics into it to motivate participation, engagement, and loyalty.

Example: Nike+ Run Club, Nutella app

-FMCG: Fast-moving consumer goods or packaged consumer goods are low-cost products that are quickly sold, changed or easily consumed within a year, whose use is generally limited on a day, month or year basis. This sector covers everything the consumer considers on the shelves. Everything from cleaning products to food and beverages is included in this group.

To be able to answer this survey, Please download the Oreo application: OREO: Twist, Lick, and Dunk.



**Tell us about yourself:**

### **1) Gender\***

- Female
- Male

### **Age \***

- 17 or less
- 18-24
- 25 -34
- 35-44
- 45 - 54
- 55- 64
- 65 - above

### **Professional Status \***

- Student
- Employer
- Employee
- Retired
- Unemployed

### **How often do you use internet? \***

- Everyday
- More than once a day
- Once a day
- Once a month
- Less than once a month

**On average, how many hours per day do you spend on the Internet? \***

- Less than 1 hour a day
- 1-2 hours
- 2-3hours
- 3-4 hours
- More than 4 hours a day

**What kind of mobile operating system are you using? \***

- Android
- Ios
- Other

**Perceived Usefulness**

The game effectively made me think about Oreo. \*

- Strongly Disagree 1 2 3 4 5 Strongly Agree

The game increased my familiarity with Oreo. \*

- Strongly Disagree 1 2 3 4 5 Strongly Agree

I found the game useful in branding Oreo. \*

- Strongly Disagree 1 2 3 4 5 Strongly Agree

**Perceived Ease of use**

It was easy for me to learn how to play that game and compete with another person. \*

- Strongly Disagree 1 2 3 4 5 Strongly Agree

It was flexible for me to play that game and compete with people. \*

- Strongly Disagree 1 2 3 4 5 Strongly Agree

It was easy to access the game and get another person to compete. \*

- Strongly Disagree 1 2 3 4 5 Strongly Agree

My interaction with this game is clear and understandable. \*

Strongly Disagree 1 2 3 4 5 Strongly Agree

### Perceived Social Influence

If my friends think it is fun to win the game competition and get the prize, I will do it. \*

Strongly Disagree 1 2 3 4 5 Strongly Agree

If my classmates / colleagues think it is fun to win the game competition and get the prize, I will do it. \*

Strongly Disagree 1 2 3 4 5 Strongly Agree

If my classmates/ colleagues like to join the game competition,I will do it as well. \*

Strongly Disagree 1 2 3 4 5 Strongly Agree

If people i know like to join the game competition, I will do it as well. \*

Strongly Disagree 1 2 3 4 5 Strongly Agree

### Perceived Enjoyment

The game was interesting. \*

Strongly Disagree 1 2 3 4 5 Strongly Agree

The game made me feel enjoyable. \*

Strongly Disagree 1 2 3 4 5 Strongly Agree

The game was a good way to spend my leisure time. \*

Strongly Disagree 1 2 3 4 5 Strongly Agree

The game involves me in an enjoyable process. \*

Strongly Disagree 1 2 3 4 5 Strongly Agree

I felt excitement with the game animation. \*

Strongly Disagree 1 2 3 4 5 Strongly Agree

**Purchase Intention**

I would buy this product/brand rather than any other brands available. \*

Strongly Disagree 1 2 3 4 5 Strongly Agree

I am willing to recommend others to buy this product/brand. \*

Strongly Disagree 1 2 3 4 5 Strongly Agree

I intend to purchase this product/brand in the future. \*

Strongly Disagree 1 2 3 4 5 Strongly Agree

It is possible that I would buy this product. \*

Strongly Disagree 1 2 3 4 5 Strongly Agree

I will definitely try the product \*

Strongly Disagree 1 2 3 4 5 Strongly Agree

**Brand Attitude**

This activity makes me feel more emotionally bonded with Oreo brand now. \*

Strongly Disagree 1 2 3 4 5 Strongly Agree

This activity evoke positive feelings about Oreo brand. \*

Strongly Disagree 1 2 3 4 5 Strongly Agree

I shall be more inclined to buy Oreo brand from now on. \*

Strongly Disagree 1 2 3 4 5 Strongly Agree



This activity makes me have intention to use other Oreos service or products. \*

Strongly Disagree 1 2 3 4 5 Strongly Agree

### Perceived Trust

I believe that Oreo Company will continue to provide quality services to its customers. \*

Strongly Disagree 1 2 3 4 5 Strongly Agree

I believe that Oreo Company strives to keep its promise to customers. \*

Strongly Disagree 1 2 3 4 5 Strongly Agree

As a FMCG, Oreo meets my expectations \*

Strongly Disagree 1 2 3 4 5 Strongly Agree

Oreo never disappoints me \*

Strongly Disagree 1 2 3 4 5 Strongly Agree

Oreo brand is trustworthy \*

Strongly Disagree 1 2 3 4 5 Strongly Agree

This brand would make any effort to satisfy me \*

Strongly Disagree 1 2 3 4 5 Strongly Agree

## Appendix C : Survey Questionnaire (Turkish Version)

Gamification: ‘‘Oyunlařtırma’’, oyun ile ilgili olmayan bir alanda veya direkt olarak iř yaptığınız sahada oyun dinamiklerinden faydalanarak uygulama geliřtirme olarak tanımlanabilir.

Örnek: Nike + Run Club, Nutella uygulaması

FMCG: Hızlı tüketim malları veya paketlenmiş tüketici ürünleri, hızlı satılan, deęiřtirilen ya da bir yıl içinde kolayca tüketilen, kullanımı genellikle gün, ay ya da yıl bazında sınırlandırılan düşük maliyetli ürünlerdir. Bu sektör tüketicinin raflarda gördüęü hızlı tüketilen her řeyi kapsar. Temizlik ürünlerinden yiyecek,içecekler kadar her řey bu ürünler grubuna dahildir.

Bu anketi cevaplayabilmek için, lütfen Oreo uygulamasını indirin: OREO:  
Twist, Lick, Dunk



Bize kendinden bahset:

**Cinsiyet\***

K

E

**Yaşınız\***

- 17 or less
- 18-24
- 25 -34
- 35-44
- 45 - 54
- 55- 64
- 65 - above

**Profesyonel durum \*\***

- Öğrenci
- İşveren
- İşçi
- Emekli
- İşsiz

**İnterneti ne sıklıkla kullanıyorsunuz?\***

- Her gün
- Günde bir kereden fazla
- Günde bir kez
- Ayda bir
- Ayda bir kereden az.

**Ortalama olarak, günde kaç saat internete geçiriyorsunuz?? \***

- Günde 1 saatten az
- 1-2 saat
- 2-3 saat
- 3-4 saat
- Günde 4 saatten fazla

**Ne tür bir mobil işletim sistemi kullanıyorsunuz?\***

- Android
- İOS
- Diğer

### **Algılanan Kullanışlılık**

Oyun etkili bir şekilde Oreo hakkında düşünmemi sağladı. \*

Kesinlikle katılmamak 1 2 3 4 5 Kesinlikle katılıyorum

Oyun, Oreo ile olan aşinalılığımı artırdı.. \*

Kesinlikle katılmamak 1 2 3 4 5 Kesinlikle katılıyorum

Oyunu Oreo'nun tanıtımında faydalı buldum. \*

Kesinlikle katılmamak 1 2 3 4 5 Kesinlikle katılıyorum

### **Algılanan Kullanım Kolaylığı**

Bu oyunu nasıl oynayacağımı ve başka biriyle nasıl rekabet edeceğimi öğrenmek benim için kolaydı. \*

Kesinlikle katılmamak 1 2 3 4 5 Kesinlikle katılıyorum

Bu oyunu oynamak ve insanlarla rekabet etmek benim için esnekti. \*

Kesinlikle katılmamak 1 2 3 4 5 Kesinlikle katılıyorum

Oyuna erişmek ve başka bir kişiyle rekabet etmek kolaydı. \*

Kesinlikle katılmamak 1 2 3 4 5 Kesinlikle katılıyorum

Bu oyun ile olan etkileşimlerim açık ve anlaşılır. \*

Kesinlikle katılmamak 1 2 3 4 5 Kesinlikle katılıyorum

### **Algılanan Sosyal Etki**

Eğer arkadaşlarım oyun yarışmasını kazanmanın ve ödülü kazanmanın eğlenceli olduğunu düşünürse, ben yaparım. \*

Kesinlikle katılmamak 1 2 3 4 5 Kesinlikle katılıyorum

Sınıf arkadaşlarım / meslektaşlarım oyun yarışmasını kazanmanın ve ödülü kazanmanın eğlenceli olduğunu düşünürse, ben yaparım.

\*

Kesinlikle katılmamak 1 2 3 4 5 Kesinlikle katılıyorum

Sınıf arkadaşlarım / meslektaşlarım oyun yarışmasına katılmak isterlerse ben de yaparım. \*

Kesinlikle katılmamak 1 2 3 4 5 Kesinlikle katılıyorum

Tanıdığım kişiler oyun yarışmasına katılmak isterlerse ben de yaparım\*

Kesinlikle katılmamak 1 2 3 4 5 Kesinlikle katılıyorum

### **Algılanan Keyfi**

Oyun ilginçti.\*

Kesinlikle katılmamak 1 2 3 4 5 Kesinlikle katılıyorum

Oyun bana keyifli hissettirdi.. \*

Kesinlikle katılmamak 1 2 3 4 5 Kesinlikle katılıyorum

Oyun boş zamanlarımı harcamak için iyi bir yoldu.. \*

Kesinlikle katılmamak 1 2 3 4 5 Kesinlikle katılıyorum

Oyun beni eğlenceli bir sürece dahil ediyor.\*

Kesinlikle katılmamak 1 2 3 4 5 Kesinlikle katılıyorum

Oyun animasyonu ile heyecan hissettim.\*

Kesinlikle katılmamak 1 2 3 4 5 Kesinlikle katılıyorum

### **Satın Alma Niyeti**

Bu ürünü / markayı mevcut diğer markalar yerine satın alırdım\*

Kesinlikle katılmamak 1 2 3 4 5 Kesinlikle katılıyorum

Başkalarına bu ürünü / markayı satın almalarını tavsiye etmeye istekliyim\*

Kesinlikle katılmamak 1 2 3 4 5 Kesinlikle katılıyorum

Gelecekte bu ürünü / markayı satın almak niyetindeyim\*

Kesinlikle katılmamak 1 2 3 4 5 Kesinlikle katılıyorum

Ben bu ürünü satın almaya İsterim mümkündür\*

Kesinlikle katılmamak 1 2 3 4 5 Kesinlikle katılıyorum

Ürünü kesinlikle deneyeceğim.\*

Kesinlikle katılmamak 1 2 3 4 5 Kesinlikle katılıyorum

### **Marka Tutumu**

Bu aktivite şimdi Oreo markasıyla duygusal olarak daha bağlı hissetmemi sağlıyor.\*

Kesinlikle katılmamak 1 2 3 4 5 Kesinlikle katılıyorum

Bu aktivite Oreo markası hakkında olumlu hisler uyandırıyor.\*

Kesinlikle katılmamak 1 2 3 4 5 Kesinlikle katılıyorum

Bundan sonra Oreo markasını almaya daha meyilli olacağım..\*

Kesinlikle katılmamak 1 2 3 4 5 Kesinlikle katılıyorum

Bu aktivite diđer Oreo hizmetlerini veya ürünlerini kullanma niyetinde olmamı sağlıyor. Kesinlikle katılmamak 1 2 3 4 5 Kesinlikle katılıyorum

### **Algılanan Güven**

Oreo şirketinin müşterilerine kaliteli hizmet vermeye devam edeceğine inanıyorum.. \*

Kesinlikle katılmamak 1 2 3 4 5 Kesinlikle katılıyorum

Oreo şirketinin müşterilerine verdiği sözü tutmaya çalıştığına inanıyorum.\*

Kesinlikle katılmamak 1 2 3 4 5 Kesinlikle katılıyorum

Bir FMCG olarak Oreo beklentilerimi karşılıyor\*

Kesinlikle katılmamak 1 2 3 4 5 Kesinlikle katılıyorum

Oreo beni asla hayal kırıklığına uğratmadı. \*

Kesinlikle katılmamak 1 2 3 4 5 Kesinlikle katılıyorum

Oreo markası güvenilir \*

Kesinlikle katılmamak 1 2 3 4 5 Kesinlikle katılıyorum

Bu marka beni tatmin etmek için her türlü çabayı gösterirdi \*

Kesinlikle katılmamak 1 2 3 4 5 Kesinlikle katılıyorum

## Appendix D: Ethics Approval Form



T.C.  
İSTANBUL AYDIN ÜNİVERSİTESİ REKTÖRLÜĞÜ  
Lisansüstü Eğitim Enstitüsü Müdürlüğü

Sayı : 88083623-020  
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Sayın Kaouther DHAHAK

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**e-imzalıdır**  
Dr.Öğr.Üyesi Alper FİDAN  
Müdür Yardımcısı

18/09/2020 Enstitü Sekreteri

Tuğba SÜNNETÇİ

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Unvanı: Enstitü Sekreteri



## **RESUME**

Name Surname: Kaouther Dhahak

Place/Date of Birth: 02 January 1996 -Tunisia

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### **Education:**

2010-2014 High school Menzah 6(Tunisia) –Computer Science Department

2014-2017 Faculty of Economic Sciences and Managemet of Tunis (FSEGT) El  
Manar Uiversity- Management Information System Department

2017-2020 İstanbul Aydın University-Master, -Business Administration Department

### **Work Experience:**

FEB 2017-APR 2017 STB BANK –Internship (Tunisia)

### **Languages:**

-Arabic: Native Language

-English: Advanced

-French: Advanced

-Turkish: Intermediate

### **Skills:**

-Communication, Teamwork, Problem Solving, Flexibility, Creativity

- Computer skills ( Microsoft Office ), HTML/CSS , C#, C++, Javascript