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Customer Loyalty Through Gamification: MB Way Case Study

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Master's in Management

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Department of Marketing, Operations and Management

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With the completion of this dissertation, I conclude another fundamental stage of my life that would not have been possible without the support of all those close to me. It was a long journey, with some obstacles, but it was very worthwhile. I couldn't be happier to finish this project and I am proud to have put my time, dedication, and effort into this dissertation.

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CUSTOMER LOYALTY THROUGH GAMIFICATION: MB WAY CASE STUDY

Resumo

A gamificação tem vindo a ser aplicada em diversos contextos, acompanhando a tendência de evolução da tecnologia e inovação. O propósito deste estudo é investigar o impacto que a gamificação tem na fidelização dos clientes, através de uma análise ao MB WAY Challenge. Devido à atual pandemia com que nos deparamos, a população tem vindo a adaptar o seu comportamento face aos métodos de pagamento, aumentando as transações financeiras através dos seus smartphones. Como tal, o presente caso de estudo do MB WAY Challenge tem vindo a acompanhar esta tendência, proporcionando componentes de jogo à sua vertente, para alcançar novos utilizadores. A revisão de literatura serve para dar um *overview* dos principais conceitos a serem abordados, nomeadamente, gamificação, prazer, engajamento, intenção de comportamento, e fidelização de clientes. O enquadramento foi desenvolvido com base na revisão de literatura e noutros modelos desenvolvidos por outros autores. A parte empírica do presente estudo foi realizada através de um questionário *online*, que foi distribuído por diversos canais para obter o maior número de respondentes possíveis. O *Partial Least Squares (PLS)* foi utilizado para avaliar a investigação. Os resultados revelaram que a gamificação tem um impacto positivo significativo na fidelização de clientes, através da intenção de comportamento do utilizador, enquanto a intenção de engajamento não influencia a fidelização dos consumidores. Outras conclusões foram retiradas, tendo certas implicações que podem contribuir para que estudos futuros possam realizar decisões conscientes quando determinarem os antecedentes para uma análise mais complexa do impacto da gamificação na fidelização de clientes.

Palavras-chave: Gamificação, engajamento, prazer, intenção de comportamento, fidelização de clientes, MB WAY.

Classificação JEL:

M30: Marketing Geral

M31: Marketing

CUSTOMER LOYALTY THROUGH GAMIFICATION: MB WAY CASE STUDY

Abstract

Gamification has been applied in various contexts, following evolving technology and innovation trends. This study aims to investigate gamification's impact on customer loyalty through an analysis of the MB WAY Challenge. Due to the current pandemic, the population has been adapting its behaviour towards payment methods, increasing financial transactions through their smartphones. As such, this case study of the MB WAY Challenge has been following this trend, providing game components to its side to reach new users. The literature review provides an overview of the main concepts to be addressed: gamification, enjoyment, engagement, behaviour intention, and customer loyalty. The framework was developed based on the literature review and other models developed by other authors. The empirical part of the present study was conducted through an online survey distributed through several channels to obtain as many respondents as possible. Partial Least Squares (PLS) were used to evaluate the research. The results revealed that gamification significantly impacts customer loyalty through user behaviour intention, while engagement intention does not influence consumer loyalty. Other conclusions were drawn, having specific implications that may contribute to future studies making conscious decisions when determining the antecedents for a more complex analysis of gamification's impact on customer loyalty.

Keywords: Gamification, engagement, enjoyment, behaviour intention, customer loyalty, MB WAY.

JEL Classification System:

M30: General Marketing

M31: Marketing

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LIST OF ABBREVIATIONS

ATM – Automated Teller Machine
AVE – Average Variance Extracted
BI – Behaviour Intention
CL – Customer Loyalty
IE – Intention of Engagement
LP – Loyalty Programs
PE – Perceived Enjoyment
PEOU – Perceived Ease of Use
POS – Point of Sales
PSI – Perceived Social Influence
PU – Perceived Usefulness
SIBS – Sociedade Interbancária de Serviços
SDT – Self-Determination Theory
TAM – Technology Acceptance Model
TRA - Theory of Reasoned Action

CHAPTER 1

INTRODUCTION

1.1 Introduction to the topic

In recent years, we have witnessed a rapid development of technology, the number of Internet users has also increased, and their lifestyles are influenced by technology in various ways (Mustikasari et al., 2022). Consequently, access to information has expanded rapidly. Customer expectations have become more demanding, emphasizing design, perceived usefulness, ease of use, and enjoyment when using products and services (Secker et al., 2015). For marketers, the challenges have become more significant, as there is an increasing need to provide solutions based on creativity and outstanding value that contribute to dynamic growth and development. All this has created an environment that aims to create engaging and dynamic customer experiences.

The first study of gamification was in 2010 and can be defined as using game elements (and design) in non-game contexts (Zichermann & Linder, 2010).

However, studies on gamification have been applied in various contexts, such as energy (Nicholson, 2014), transportation (Hall & Toke, 2018), education (Kim et al., 2018), health (Fleming et al., 2017), fashion (Insley & Nunan, 2014), and marketing (Church & Iyer, 2018) among others (Robson et al., 2015). Gamified services have influenced users' usage intentions and attitudes toward information systems.

According to Hamari and Koivisto (2015), users perceive these gamified services as accurate and enjoyable. In turn, gamification is used as an innovation tool in e-business strategies to engage customers (Rodrigues et al., 2016), thus serving as a key to loyalty (Fathian et al., 2019). This growth may lead to gamification's ability to drive customer engagement (Hollebeek et al., 2021), as it is an essential driver of customer loyalty (Hollebeek et al., 2014). Hall and Toke (2018) conclude that the concept of gamification is essential for companies to achieve customer loyalty through customer engagement and motivation.

The current empirical studies rely heavily on a theoretical perspective that concludes that a gamified system achieves significantly more beneficial outcomes than non-gamified systems, but empirical evidence is needed (Rapp et al., 2019).

On the other hand, one aspect that has intensified is the need for smartphones in the population's daily lives for several reasons, such as making purchases and transactions and using social platforms. A dominant factor for this was COVID-19, which intensified this need and enabled the development of new online services. The applicability of gamification in financial services is beginning to be observed to increase customer engagement, leading to

an increase in users and transactions, and not just for entertainment. However, there are few studies on this aspect (Chen & Pan, 2022).

A framework was developed to relate the variables considered relevant for this study. In this framework, the Technologic Acceptance Model (TAM) is applied and the variables Perceived Ease of Use and Perceived Usefulness are taken as antecedents of the variables to be considered. It was assumed that the independent variables, Perceived Ease of Use (PEOU), Perceived Usefulness (PU), Perceived Social Influence (PSI) and Perceived Enjoyment (PE), contribute to Customer Loyalty (CL). This relationship is established indirectly, via two variables, Intention of Engagement (IE) and Behavioural Intention (BI). This study focuses on how gamification influences customer loyalty for a particular service, in this case, MB WAY Challenge.

1.2 Research Objectives and Questions

We live in a digital world where the community embraces and benefits from innovation. Therefore, the concept of marketing through gamification arises and there is a need to identify how this tool makes brand customers even more loyal.

This study aims to understand the impact of gamification on customer loyalty in financial mobile applications, based on the TAM Model, perceived social influence and perceived enjoyment, through the antecedents of customer loyalty: intention of engagement and behaviour intention. The purpose of this is to understand which aspects of gamification are being applied to promote the users' intention of engagement and behaviour.

This dissertation aims to study the applicability of gamification on a particular service, addressing its users. Thus, the present study aims to answer the following questions:

1. To achieve the intention of engagement of a gamified service, which aspects need to be considered?
2. Is intention of engagement a relevant aspect to achieve customer loyalty in a gamified service?
3. To achieve the behaviour Intention of a gamified service, which aspects need to be considered?
4. Is behaviour intention a relevant aspect for achieving customer loyalty in a gamified service?

To study these questions, we will analyse the effect of the TAM model (perceived ease of use and perceived usefulness), the effect of enjoyable experiences and social influence on engagement intention and behaviour intention. Then, we will study the impact of engagement intention and behaviour intention on customer loyalty for a given service.

1.3 Structure of Document

The paper is organized into five chapters that constitute its research:

Chapter I: Introduction, objectives and research question, in which the topic is characterized, the objective is defined, the research questions are presented, and where the structure of the respective dissertation is defined.

Chapter II: Literature Review, which addresses the necessary theoretical concepts that are the basis of this dissertation, is divided into five groups: Gamification, Loyalty Programs, Engagement, Enjoyment, Customer Loyalty, and Gamification on payments systems and mobile apps.

Chapter III: Methodology, which contains the research objectives, the research model, the development of the hypotheses and the choice of methodology for the development of the quantitative study.

Chapter IV: Data Analysis, where the results acquired from the statistical analysis that will support the answers to the research hypotheses developed will be presented, as well as the profile of the sample, the statistical analysis and the result of the hypothesis test.

Chapter V: Discussion, in which the results obtained in the statistical analysis will be justified, according to the hypothesis test results and where the final considerations of the quantitative study are extracted.

Chapter VI: Final Considerations, which contain the conclusions of this dissertation, taking into consideration the literature review, the results of the quantitative study, its implications, limitations, and future research.

CHAPTER 2

LITERATURE REVIEW

2.1 Gamification

2.1.1 Concept of Gamification

Gamification has increasingly become a promising trend in various fields, such as corporate resource planning, health, exercise aids, marketing, and advertising, or even the creation of loyalty programs by large companies such as SIBS (Sociedade Interbancária de Serviços), Starbucks, or McDonald's (Koivisto & Hamari, 2019), thus highlighting its globality.

The definition of gamification first appeared in 2008 in a blog by Bret Terrill, in which the author defined the concept as "taking game mechanics and applying them to other web properties to increase engagement", however, the concept was not broadly adapted before 2010 (Gatta et al., 2015). According to the author, the gamification concept has been changing to adapt to the digital media industry and has the particularity to differentiate.

Robson et al. (2015) consider that gamification consists of using characteristic game elements used in non-game contexts to increase user motivation and involvement, providing greater overall value.

In turn, Hamari et al. (2014) argue that gamification aims to provide game experiences and behavioural responses using game features to capture the same psychological experiences that games provide.

However, Deterding et al. (2011) propose that gamification encompasses a set of *gamefulness*, *gameful* interaction and design components with an already defined goal. The author defines these three elements as fundamental for developing a gamification system.

According to Huotari and Hamari (2012), it is essential to mention that the concept of "gamification" does not contain a set of characteristics that define game elements. In turn, it is necessary to consider gamification broadly and understand that its purpose is to offer a service with dynamic characteristics providing gaming experiences and motivating the customer to enjoy this experience (Huotari & Hamari, 2012).

As previously mentioned, the gamification concept has been increasingly used by organizations, and its perception emerged in 2010 (Robson et al., 2015). In turn, Robsen et al. (2015) identify three leading causes for the exponential growth of gamification. Firstly, the variety of studies focusing on the design, construction, and management of game experiences, as well as structures to motivate people to play, was due to the relevant growth that the computer games industry has seen in the last two decades. Secondly, the massive use of social media, mobile technology, and the web has significantly changed how consumers

perceive their experiences, i.e., how they experience them. This is very relevant for companies to take advantage of this information and use it to improve consumer-spending habits.

Third, companies are constantly looking for innovative and effective methods to engage, learn, and influence the behaviour of employees and customers. In turn, Leclercq et al. (2017) state that companies adopt gamification for three main reasons: (1) to increase customer loyalty, (2) to achieve positive word-of-mouth, and (3) to achieve customer engagement.

Table 2.1. Main gamification definitions

Definition	Author and Year
“(…) the art and science of turning your customer's everyday interactions into games that serve your business purposes” (p.20).	Zichermann & Linder, 2010
“The use of game design elements in a non-game context” (p.2).	Deterding et al., 2011
“Gamification is an emerging technology that uses elements from digital games to motivate people to act in a certain way in non-gaming environments” (p.391).	Bittner & Schipper, 2014
“Gamification is a manifold socio-technological phenomenon with claimed potential to provide a multitude of benefits such as enjoyment as well as social benefits through communities and social interaction” (p.419).	Hamari & Koivisto, 2015
“System applying game design elements to a non-game context in order to generate playful experiences and influence users' attitude and/or behaviour” (p.460).	Yang et al., 2017
“Gamification is an intentional process (intentional gamification) in which activities, systems, services, products, and organizational structures are transformed in such a way that a positive experience and skills can be achieved” (p.1).	Gerdenitsch et al., 2020

2.1.2 Gamification vs Serious Games

Users who play voluntarily can encounter unnecessary difficulties during the game experience (Mitgutsch & Alvarato, 2012). However, these obstacles can give the user a sense of seriousness, and the user becomes exceptionally involved in the game, making it severe.

Thus, the concept of "serious games" arises, which differs from gamification in the game experience (Deterding et al., 2011).

Serious games encompass the overall concept of the game and aim to create engagement with the player, transmitting ideas and values that will influence the player's perspective, ideas, and conceptions of reality (Gamberini et al., 2008).

While serious games provide a complete game experience, gamification results from adding game elements in a non-game context and may not provide a complete game experience (Charsky, 2010; Fleming et al., 2017).

According to Deterding et al. (2010), gamification incorporates the definition of serious games; however, the opposite is invalid, stating that gamification corresponds to a part of serious gaming.

2.1.3 Game Elements

Game elements and characteristics emerge as essential factors in the concept and definition of gamification, being present in most games (not necessarily), directly affecting the experience provided to the user through their presence in the game (Deterding et al., 2011). In this way, game elements appear as regular patterns used in game development and can be applied in various ways, making business procedures similar to games (Werbach & Hunter, 2012).

According to Werbach and Hunter (2015), three game elements are fundamental in the development and study of gamification: dynamics, mechanics, and components.

Game Dynamics:

The game dynamics represent the most abstract level of the game elements, which allow the interaction between the user and the game dynamics, i.e., marks the user behaviour in the game with its strategic interactions. Their presence is not mandatory in the game. They are only aspects considered but not directly part of the game. However, they are aspects of the general concept of gamification (Werbach & Hunter, 2012). Thus, Zichermann and Cunningham (2011) consider that the dynamics provide the way users relate to the experience through the mechanics that players adopt. In turn, gamification dynamics' complexity complicates their perceptiveness, which may lead to unintended positive or negative attitudes and consequences.

Game Mechanics:

Regarding the mechanics, they are based on being defined before the game starts, remaining constant for all players, and representing the functional components of the game (Zichermann & Cunningham, 2011). In this way, they compose a combination of rules and technicalities to gamify, jointly or individually, and may represent a motivational factor for the user. This

motivation will influence the user's action, producing significant positive or negative responses. From the user's point of view, the game mechanics are scarce, and dynamics are a fundamental element since users have different expectations and motivations (Ferreira, 2015).

Game Components:

Regarding components, these are viewed differently from dynamics and mechanics and represent the high-level result of the dynamics and mechanics of the game itself, being the implementation of what these two elements represent (Alves, 2015).

Table 2.2. Game-design elements

Dynamics	Mechanism	Components
Constraints	Challenges	Achievements
Emotions	Chance	Avatars
Narrative	Competition	Badges
Progression	Cooperation	Boss Flight (hard challenges)
Relationship	Feedback	Collections
	Resource	Content unlocking
	Rewards	Leaderboard
	Transactions	Levels
	Turns	Points
	Win states	Win states
		Social graphs
		Teams
		Virtual goods

Source: Dichev & Dicheva (2017)

2.1.4 Type of Players

To provide a practical gamified experience, it is necessary to know how to identify the types of players for whom the game is intended and its target audience (Werbach & Hunter, 2012). In this way, it is easier to approach the game based on what moves them, leading to greater player satisfaction and replayability.

Therefore, to facilitate the identity of the players, the BrainHex demographic model, developed by Nacke et al. (2013), will be considered. This model was developed to serve future studies further to detail the model (Oliveira, 2018). However, it corresponds to the first model that identifies players into classes and subclasses, being influenced by each other, and categorizes them into seven types: Achiever, Conqueror, Seeker, Survivor, Daredevil, Mastermind, and Socialiser (Nacke et al., 2013).

Achiever: The type of player with this characteristic has a more goal-oriented outlook, even focusing on the execution of those goals, with long-term achievements in mind, undertaking challenges whose execution is achievable (Nacke et al., 2013; Tondello et al., 2018).

Conqueror: The profile of this player is characterized by the satisfaction they have for encountering adversity throughout the experience, being motivated by "anger", and remaining persistent when facing the challenge. (Nacke et al., 2013; Tondello et al., 2018).

Seeker: This category identifies players who are curious about the experience itself and enjoy it in its entirety, being influenced and motivated by two aspects: the way the brain processes sensory information and the memory association. (Nacke et al., 2013).

Survivor: This player is characterized by being motivated by experiences with terror intensities or by the feeling of relief after victory, that is, he likes challenges that imply great efforts and a continuous fight in fictional/gaming contexts (Nacke et al., 2013).

Daredevil: This player profile is distinguished by the source of motivation, i.e., his motivation is based on factors that provoke excitement, feelings of risk, and playing to the limit while maintaining total control over the gaming experience (Nacke et al., 2013).

Mastermind: Players who fall into this category like experiences that force them to create strategies and think in depth about the challenge and how to achieve it with more efficient decisions. Their motivation is in the sense of accomplishment after achieving that challenge with thoughtful decisions, being a player who enjoys solving puzzles and strategizing (Nacke et al., 2013).

Socialiser: What characterizes these players is that they like to enjoy the experience with other people they trust, whether it is sharing ideas, helping them, or simply enjoying their company (Nacke et al., 2013).

2.1.5 Benefits of Gamification

Despite the high growth of the use of gamification, there are still few studies on its practice and the effects it may have, especially from a marketing perspective, both for organizations and customers (Yang et al., 2017).

As far as organizations are concerned, gamification is used as a game component based on entertaining interaction and aims to create a sense of belonging in users. Users will feel

different emotions and experience differentiated moments as this gamified interaction occurs. It will directly or indirectly influence the brand's image and, consequently, its evolution (Herrewijn & Poels, 2015). In addition, the information obtained from gamified services will allow organizations to identify their users' needs and preferences, facilitating the construction of customer value-creation support (Abou-Shouk & Soliman, 2021).

Gamification allows the incorporation branding messages, an advantage over traditional marketing tools (Xu, 2010). Moreover, gamification also allows repeating these branding messages during the process since there is no time limit on branding products or services. Regarding employees, the work-games combination is more likely to create an entertaining and dynamic environment that creates engagement with the organization (Yang et al., 2017). More organizations are adopting gamification to improve performance (Lafrenière et al., 2012).

From the users' perspective, gamification provides a sense of fun, which will benefit users since people like the sense of competition and winning. Gamification provides users adrenaline, allowing them to observe other "players" and their performances, thus increasing their interest. The fact that gamification is usually based on a prize component, however small and virtual it may be, is a way to capture players' continued interest, leading to brand and product or service loyalty (Yang et al., 2017). Due to its strong interaction, gamification can promote people's sense of belonging and identification with a brand. Users experience various emotions toward the system itself or the people involved when interacting with the gamified system. (Herrewijn & Poels, 2011). In turn, gamification, through its game component, also impacts users in the various contexts in which it can be applied, as it can influence their attitudes, behaviour, and thoughts about the brand and the product or service (Domínguez et al., 2013).

2.1.6 The dark side of gamification

In addition to the positive effects of gamification, there are also adverse effects that need to be considered. Some of the factors that lead to this are the increase in competitiveness (Hakulinen et al., 2013), the difficulty of the task itself (Domínguez et al., 2013), and design features (Dong et al., 2012).

These adverse effects impact customer loyalty since some organizations attempt to create value for the user from a long-term perspective. However, not enough literature studies analyse the harmful effects of the gamification-customer loyalty relationship (Nicholson, 2014). This long-term perspective will influence customer loyalty since it is based on gamification to engage users continuously, awarding certain prizes to increase engagement and motivation towards the organization. Companies must innovate how they apply gamification so that users

do not get bored and stop shopping or using their organization's products/service (Nicholson, 2014).

Another aspect to consider in customer loyalty is the issue of gamification related rewards and how this motivates/demotivates users (Morschheuser et al., 2016). Some authors analyse the question of whether the short-term intrinsic motivation of users is associated with the type of extrinsic gamification of reward systems. If that gamified system encourages extrinsic motivation through the reward system, this leads to the user's intrinsic motivation for a particular behaviour only in the short term, harming the user's motivation in the long term. One situation where this risk may exist is in the case of financial rewards (Schöbel et al., 2021). Gamification that encompasses reward systems such as financial rewards (money) contain a particularity because, according to Deci et al. (1999), it can increase the user's intrinsic motivation to participate in this gamification process in the short term. However, the authors also state that the motivation to participate in gamification processes with financial rewards, from a long-term perspective, is ultimately reduced.

Given the adverse effects it can cause, another aspect to consider corresponds to the demoralization that gamified systems can cause to the user (Schöbel et al., 2021). Users must not have negative experiences where the result achieved is seen as "cheating" or has an excessive or inappropriate consequence according to their expectations and the dynamics of the gamified system.

2.2 Loyalty Programs

A loyalty program is a marketing technique that brands and companies increasingly use to promote an increase in the duration of users or current customers of that brand, creating an interactive relationship for a more extended period (Uncle et al., 2003). The use of loyalty programs in companies has become more and more necessary. Consumers have become more resistant to change and competitive offers; they are less sensitive and more profitable. Nowadays, keeping loyal customers is more profitable than acquiring new ones. (Reinartz & Kumar, 2003).

Loyalty programs correspond to a vital component that is interrelated with gamification. Companies are increasingly using these programs for two purposes: to increase the volume of purchases and loyalty to companies (Hwang & Choi, 2020). Therefore, loyalty programs correspond to any organized incentive scheme to improve consumer consumption habits (Henderson et al., 2011). In turn, Hwang and Choi (2020) argue that a loyalty program can be considered a marketing program, which aims to use incentives to build customer loyalty.

Henderson et al. (2011), in their review of loyalty programs, concluded that there are three domains: status, habit, and relational, which underlie the theoretical underpinning of most

research on this topic. Considering these three domains, the author argues that the change in consumer behaviours caused by loyalty programs has three main reasons. Firstly, the fact of attributing status to the user allows them to make favourable comparisons with others; the second coincides with the creation of routines, which allows users to create memory processes and always consider the brand; lastly, the strengthening of relationships with consumers, which makes them closer to the brand.

Traditional loyalty programs are losing their reach as customers lose interest due to their transactional nature. Thus, the need arises for gamification to loyalty programs to add an experiential and attitudinal reality (Hwang & Choi, 2020). Therefore, the goal of using gamification in loyalty programs is to use the game mechanics in question to motivate users to enhance the perception of the value of an action and reward users with additional benefits for having carried out that same action (Warnock & Gantz, 2017).

Thus, several studies support the use of gamification in customer relationship management since it positively impacts both marketing and loyalty programs that lead users to participate in the game context and engage with the dynamics, increasing their loyalty to the brand (Bitrián et al., 2021).

2.3 Enjoyment

One indicator that greatly influences users' willingness to adopt new technologies is enjoyment (Raman, 2021). Thus, one of the outcomes related to gamification is emotions, more precisely, enjoyment (Harwood & Garry, 2015).

A relevant factor is the users' degree of sensitivity and emotional experience, directly related to positive emotions such as enjoyment (Sulsky, 1999).

Studies prove that enjoyment plays an essential role in the performance of a task and can be expressed through feelings such as fun and pleasure (Baranowski et al., 2003).

Enjoyment arises as an intrinsic reward when using a particular technology. It corresponds to a positive feeling of pleasure when performing activities (Davis, 1989). Providing people with positive emotions is a way to influence them physically and psychologically since people, in general, tend to experience tasks that interest them, maximizing enjoyment (Hernik & Jaworska, 2018).

Regarding mobile technology, gamification is increasingly used to achieve customer loyalty, and enjoyment is crucial in this process (Hofacker et al., 2016).

With gamification emergence and growth, one of the main goals is to increase user engagement or enjoyment (Deterding et al., 2011). The role of gamification is focused on providing a sense of accomplishment and enjoyment, influencing people's motivation and

engagement. Thus, it should promote fun and enjoyable experiences to result in user engagement with a particular brand or activity (Harwood & Garry, 2015).

According to Cardador et al. (2017), enjoyment is a tool that significantly influences the intention to adopt a given technology, in this case, gamification. The reason is that enjoyment plays a role that can motivate people to adopt specific tasks or behaviours or to abandon them. It happens because enjoyment is seen as an effective outcome of a task closer to achieving. These feeling releases individuals' endorphin that promotes an improvement in mood by changing the individual's perception of the effort applied to a given task (Goh & Razikin, 2015). On the one hand, pleasure makes individuals feel that they have not even exerted themselves to accomplish a certain task, although they have indeed exerted themselves (Acevedo et al., 1994). On the other hand, it can make the individual want to put even more effort into an activity because they feel satisfied (Raedeke, 2007).

However, Yang et al. (2017) goes beyond the concept of enjoyment. The authors concluded that the attitude towards a new marketing system is related to the attitude towards that system. In turn, people's attitude towards that system is associated with people's attitude towards the brand associated with that system. This means that marketing systems, such as gamification, are associated with people's attitudes. In other words, positive feelings are associated with people's attitudes, which tend to develop a positive attitude towards the brand associated with that system. This is important because we can conclude that gamification will influence people's feelings through enjoyment and, consequently, create a good relationship between users and the brand. Therefore, Raman (2021) concluded that users of a particular service are more willing to join gamified environments that provide satisfaction and enjoyment.

2.4 Engagement

The concept of "engagement" has been increasingly studied and associated with several social and academic disciplines, such as video games, education, and organizational behaviour (García-Jurado et al., 2021). Engagement is an essential concept since more organizations are using gaming and rewarding practices to provide customer loyalty and, in turn, create engagement (Hamari, 2013). According to Doorn et al. (2010), from a marketing perspective, engagement is based on the customer's relationship with a company, referred to as "customer engagement" (CE).

The customer engagement literature shows that this concept is multidimensional since several authors have different definitions and conceptualizations (Pansari & Kumar, 2016). According to Brodie et al. (2011), customer engagement is directly related to an interactive experience in which cognitive, emotional, and behavioural results are evident.

The concept of customer engagement is increasingly relevant for companies (Pansari & Kumar, 2016) and has come to be considered a desired state. In this way, companies have been influencing the behaviour and responses of users to the use of their products/services without actually experiencing them (Harwood & Garry, 2015). According to the literature, customer engagement has been conceptualized in three dimensions: cognitive, emotional, and behavioural (Tanouri et al., 2019). Firstly, cognitive engagement integrates the focus of attention on the gamified object (Suh et al., 2016); emotional engagement is associated with the individual's relationship with the gamified system associated with feelings of happiness and enjoyment (Vasta et al., 2018); finally, behavioural enjoyment occurs when, in contact with a gamified system, the individual expends effort and energy.

However, the fundamental principles that can provide customer engagement through gamification are not yet well defined (Eisingerich et al., 2019). Therefore, it is essential to effectively manage the use of gamification mechanisms for positive results. (Leclercq et al., 2019). It is necessary to study and understand users' availability levels to measure their determination to participate in brand activities and to evaluate the gamification mechanisms used over time. These mechanisms need to be updated so that the customer experience continues to be exciting and fun for the user, leading to greater consumer engagement with the brand (Hollebeek et al., 2019).

This customer engagement demonstrates gamification's value to customers and companies (Eisingerich et al., 2019). From the customers' perspective, they are stimulated to perform behaviours related to the gamified applications. From the companies' perspective, they can produce data about their customers and their engagement behaviours. Users' sharing their results with friends will also provide greater influence (Kumar & Pansari, 2016).

After defining "loyalty programs" and "engagement", it is possible to establish a relationship between the parties. Bruneau et al. (2018) define customer loyalty program engagement as the customers' behavioural demonstrations towards a particular company's loyalty programs beyond the purchase process. Thus, with gamification, organizations aim to provide users with emotions and awaken behaviours similar to those experienced in the game so that responses arise that lead to increased loyalty and relationship progress (Harwood & Garry, 2015).

The use of gamification adds value to the company, increasing the impact of marketing and advertising on customers/users. The application of gamification in marketing aims to promote user experience in the app, which will directly impact user engagement through mobile marketing programs (Noorbehbahani et al., 2019).

Vivek et al. (2012) conclude that promoting user engagement with the organization will positively impact the user's attitude towards their service.

In turn, according to Bitrián et al. (2021), the application of gamification by organizations promotes user engagement by satisfying the three basic psychological needs: competence, autonomy and relatability.

According to Kim et al. (2013), when users are engaged in a certain task, the likelihood of engagement is higher; they can be physically, cognitively and emotionally engaged (Kim & Han, 2011). When users are engaged with a particular mobile application, there is a greater likelihood that they will begin to integrate it into their self-concepts, and it is directly and positively associated with continued use of that app. (Algesheimer et al., 2005). The same is true for Word-Of-Mouth intention. Wu et al. (2018) concluded in their research that when user engagement with a particular service is higher, there is an intention to recommend the service to non-members/users.

2.5 Behaviour Intention

Behaviour intention measures an individual's probability of purchasing or adopting a certain product or service (Davis, 1989). However, studies about game characteristics and their influence on customer behaviours are still scarce (King et al., 2010). Gamification emerges to propose changes in behaviour through its influence on people's motivation (Bayuk & Altobello, 2019).

Currently, there is a growth in the provision of financial services in smartphone applications. Thus, an opportunity arises to interface these systems with gamification features to promote improvement in financial behaviour (Bayuk & Altobello, 2019).

On the other hand, many people still do not use online financial services for various reasons such as lack of usefulness, the difficulty of use, and lack of enjoyment, among others, contributing to the poor success of financial services (McKnight et al., 2002). To reverse this situation, it is necessary to identify the antecedents of customers' intentions to use a given gamified system, which will lead to greater acceptance of financial services electronically. However, it is essential to validate the degree to which an individual's attitude is, or is not, favourable toward gamified systems (Rodrigues et al., 2016). Therefore, the authors define behaviour intention as the customers' prediction to use a gamified system.

By developing gamified business applications, user behaviour can be influenced in several aspects, such as acquiring knowledge about e-business, using the service more frequently, and giving users the freedom to give feedback, among other aspects, increasing their online activity, and their relationship with the brand (Chen & Pan, 2022).

2.6 Customer Loyalty

The concept of loyalty has been defined by Kunkel et al. (2021) as "a deep commitment to repurchase or re-patronize a preferred product/service consistently in the future, thus causing repeat purchases of the same brand or set of brands" (p.949). Thus, we can consider that the concept of loyalty is associated with attitudinal and behavioural components.

The concern about customer loyalty has been increasing in recent years due to the competitive environment in today's market, where customers compare offers and prices more clearly and accurately. Therefore, customer loyalty becomes more challenging to achieve. However, if successful, it is due to a good loyalty program with favourable customer relationship management (Närvänen et al., 2020).

Gamification has emerged in the marketing industry as a strategy to obtain and ensure customer loyalty by offering rewards for using it (Stegenga, 2018).

The concept of loyalty does not have a globally accepted definition (Watson et al., 2013). However, it is composed of three approaches, namely, attitudinal loyalty, behavioural loyalty, and composite loyalty. It is essential to distinguish the approaches to understand their complexity better.

Attitudinal Loyalty

Firstly, Watson et al. (2013) argue that the attitudinal dimension represents customers' repeat purchase behaviour in the future, even if there are marketing attempts by other companies to cause switching behaviour. A substantial component of positive attitudes indicates a greater likelihood of customer loyalty. Customers with this perspective assume "defensive processes", making them more resistant to change. This is also related to a feeling of emotional and psychological commitment.

Behaviour Loyalty

Another element of loyalty corresponds to behaviour. This dimension is more controversial since it ignores the principles of repeated purchase behaviour, i.e., it does not consider situational patterns. In turn, consumer behaviour makes it possible to clarify financial outcomes as purchasing activities grounded in loyalty (Ailawadi et al., 2008).

Composite Loyalty

After analysing each approach, several authors argue that a joint approach of the dimensions studied corresponds to a better conceptualization of loyalty than exclusively the attitudinal or behavioural approach (Olsen, 2002). Thus, this multidimensional view considers that the alignment of the attitudinal and behavioural dimensions represents the exact loyalty of the user/customer (Watson et al., 2013). In this way, customer loyalty goes through an

evolutionary process that begins with a coherent, logical, and rational procedure, representing cognitive loyalty, and then changes to affective loyalty, gained through an emotional connection. After this process, the customer reaches the behavioural process through conative loyalty and action to continue enjoying a product/service in the future while maintaining a solid commitment to that brand or company (Närvänen et al., 2020)

In turn, gamification may negatively affect customer loyalty from a long-term value-creation perspective (Hamari et al., 2014). Gamified customer loyalty programs should not have a permanent basis in which customers become bored but should aim to awaken users' minds through game elements in a non-game context so that they remain connected to the brand or company's offer (Nicholson, 2014; Deterding et al., 2011).

According to Huotari and Hamari (2012), the retention process of customer loyalty involves creating user engagement through the gaming mechanisms of a given service. Appropriately adding these mechanisms facilitates this engagement, leading to better user retention.

Another factor to consider when applying gamification to achieve customer loyalty is the question of game design elements in a non-game context. These will influence retention, in combination with particular actions in which users can win benefits or prizes. Thus, they create user engagement in which the user repeats the same process several times, increasing their motivation (Harwood & Garry, 2015).

2.6.1 Motivation

Motivation emerges as essential in the development of gamification. It represents a basis for users to act according to their needs, interests, or appropriation of their environment (Torres-Toukoumidis et al., 2021).

Empirical studies of gamification have focused on its definition (Mora et al., 2015). However, as interest in this area evolved, other researchers saw the need to expand the study to its essence through the perspective of the various approaches. In this case, the approaches to be studied correspond to intrinsic and extrinsic motivation and motivation in users' attitudes during a lived experience through gamification (Yang et al., 2017). Ryan and Deci (2000) mentioned that there are two essential types of motivation to study: intrinsic and extrinsic.

Intrinsic motivation occurs when an individual performs certain behaviours for internal fulfilment for reasons linked to the activity itself. Thus, when an individual is intrinsically motivated, there is an authentic desire for the activity, and he feels it in its entirety.

In extrinsic motivation, the individual performs the activity to achieve an outcome external to the task itself (e.g., rewards), not valuing the pleasure of the action itself.

2.6.2 Self-Determination Theory

Self-Determination Theory (SDT) is one of the most influential cognitive theories, as it considers motivation multidimensional, differentiating intrinsic motivation from extrinsic motivation. This differentiation clarifies personal willingness to act and compares them with amotivation (when there is no motivation to act on the part of a person – the absence of intention and self-determination) (Landers et al., 2019). The SDC theory identifies three basic psychological needs (Karimi & Nickpayam, 2017): autonomy (the right to one's behaviour), competence (the individual's ability to achieve the results he or she desires and to experience mastery), and relatedness (sensitivity to being connected with others) (Landers et al., 2019). These three characteristics are critical for the individual to more easily achieve positive social development and personal well-being and be intrinsically motivated to the fullest (Ryan and Deci, 2000). According to Rigby and Przybylski (2009), four studies validated that autonomy, competence, and relatedness were fundamental to game enjoyment and were not directly affected by the content of the game, its complexity, and its type.

Regarding the context of the game, certain elements or mechanics can positively and negatively influence these three characteristics (Ryan et al., 2006). The role of extrinsic rewards can decrease motivation, as these rewards contain a controlling character. Controlling a user's actions can undermine their intrinsic motivation and the deep desire for the task itself (Ryan and Deci, 2000). Thus, from the perspective of gamification for marketing, having an approach where social needs and cognitive motives are intertwined with the "game" component allows for a greater likelihood that users will be influenced in both behaviour and attitude (Yang et al., 2017).

Thus, the fact that this theory has been increasingly used in the context of video games and has been recurrently used with gamification demonstrates its importance in this context. For SDT to be applied in a gamified way, elements must satisfy at least one of the three basic psychological needs (autonomy, competencies, and relationships) (Kalogiannakis et al., 2021).

In conclusion, it is essential to create gamification systems that contain both intrinsic and extrinsic rewards to achieve the two types of motivation analysed above, which are fundamental to the success of gamification.

2.7 The link between gamification, loyalty programs and engagement (GLPE)

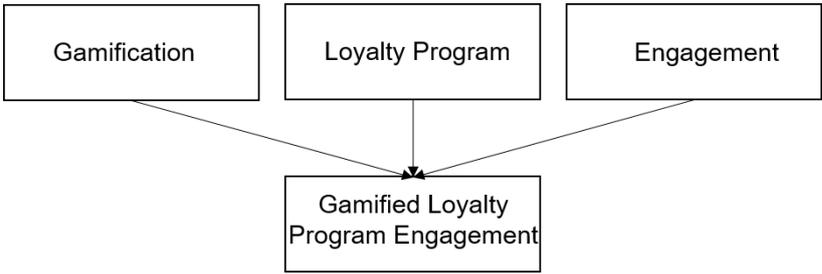
The Gamified Loyalty Program Engagement concept combines three main topics: gamification, loyalty programs, and engagement. The GLPE concept is relevant in this study as it covers the entirety of the topics covered for this research theme (above) and relates them to the concept of motivation (intrinsic and extrinsic). According to Hollebeek et al. (2021), the GLPE influences the intrinsic motivation of consumers and their commitment. The author also establishes that the fundamental antecedents of the GLPE correspond to intrinsic motivation (grounded by self-determination theory) and extrinsic motivation.

Currently, there is a trend toward using gamification in marketing practices to intensify the effectiveness of organizational loyalty (LP) programs (Hollebeek et al., 2021). Although there is a growing trend in the use of LP, academic study on its gamified component (GLP) has been little explored, particularly regarding its nature, dynamics, and effectiveness (Moro et al., 2019).

Therefore, according to the definition of LP (Bruneau et al., 2018), two concepts related to Loyalty Program members emerge: direct contributions (purchase of the company's offers made by customers); and indirect contributions (non-purchasing attitude on the part of the customer but which in turn adds value to the company, e.g., feedback, online opinions) (Pansari & Kumar, 2016).

After defining its essence, the Gamified Loyalty Engagement Program can then be defined: as "GLP-related behaviours of members, expressed through direct (i.e., purchase) and/or indirect (e.g., GLP-related learning/advocacy) contributions" (Hollebeek et al., 2021, p.4).

Figure 2.1. Gamified Loyalty Program Engagement (GLPE) Concept



Source: Hollebeek et al. (2021)

2.8 Gamification on payment systems and mobile apps

With the strong digitalization trend and due to factors, such as COVID-19, there has been an increase in the development of new smartphone services, such as mobile payments (Chen & Pan, 2022). With this emergence, new electronic payment platforms have emerged and are increasingly used due to several factors that motivate their use (Suebtimrat & Vonguai, 2021). Mobile payments correspond to a payment method that is made through a mobile device and emerges as an alternative to performing financial transactions, such as paying for products or services, either physically or online, providing the user with greater involvement with the product/service (Bùi & Bùi, 2018).

Gamification has also been applied in financial services, although there are few published studies on applying gamification and its elements in mobile payment service contexts and how it becomes effective. Thus, gamification has another component. It is not used for entertainment and marketing purposes but rather to increase the usage loyalty of consumers so that the number of transactions increases (Bùi & Bùi, 2018).

In a study conducted by Chen and Pan (2022), whose subject studied was gamification in mobile payment systems, the authors conclude that the mechanisms implemented in gamification applied to mobile payment systems should be reward games since it awakens the user a motivation related to rewards. However, there are some cases where achievement mechanisms are applied, although they are not as efficient. In the economic context, the organization's goal is to increase the number of mobile transactions and awaken a sense of achievement in the user. The increasing use of payment applications can be strengthened by creating a gamified version design. This could promote and increase the motivation behaviour of users, creating the basis for the creation of user loyalty and increasing not only their satisfaction but also their overall value. Online gaming positively impacts user behaviour and is influenced by trust, pleasure, ease of use, and loyalty.

It is concluded that the development of applications with game features may have a positive impact on their use, consequently increasing the loyalty of users of the respective financial system (Rodrigues et al., 2016). According to these attributes, gamification will increase user engagement by using the product/service (Justin & Joy, 2019).

CHAPTER 3

MB WAY CHALLENGE CONTEXT

SIBS (Sociedade Interbancária de Serviços) - Forward Payment Solutions, SA., was created in 1983 and corresponded to a Portuguese-dominated company whose purpose is to provide cooperation of companies specialized in payment services areas. Another of its objectives is associated with the creation, development and re-invention of existing financial services, promoting an innovative vision and standing out as one of Europe's most relevant payment processors.

It is the entity responsible for the centralized management and maintenance of the Multibanco and ATM Express Networks, encompassing its multi-channels: Automatic Teller Machine (ATM/CA) and Point of Sales (POS/TPA) and also online and mobile phones.

It has an increasingly relevant international presence in several markets, more precisely in Europe and Africa, as in the case of Poland, Romania, Angola, and East Timor, among many others. SIBS also stands out in all its brands, namely, Multibanco, MB WAY, MB NET, Cartosis (being the leader in card production and personalization in the Iberian Peninsula) and ATM Express intends to keep its mission of being seen as a reference partner for public and private entities, providing value to society and considering its values: security, convenience, innovation and sustainability.

MB WAY

MB WAY is a SIBS service, which became available on October 12, 2015, supported by the Multiservice Platform and currently has 4 million users. It is a solution (app) that offers the possibility of making purchases (physical and online), immediate transfers, creating virtual cards (MB NET) and withdrawing money via smartphone or tablet.

To use the MB Way service, customers must install and activate on their smartphone/tablet the SIBS mobile application available in the respective mobile application store (Google Play or App Store). The activation of the application will only be possible after subscribing to the service.

It corresponds to an initiative that reinforces the innovative character that SIBS presents and subverts the way mobile devices are currently used in Portugal, achieving results that are consistently above expectations.

MB WAY Challenge

In addition to all the features that MB WAY offers its users (mentioned above), on September 21, 2021, it launched its latest version of the MB WAY Challenge. Its goal is to increase the

use of the MB WAY service in the Portuguese community so that they start to make it a habit to pay through their smartphones, following the digitalization tendency.

Description of the MB Way Challenge service

This MB WAY Challenge update is based on the appearance of vouchers. So, to receive a voucher, the user must make purchases (whether in physical format or online) and pay for those purchases through MB WAY using the "Pay with MB Way" option. After the payment, the user will receive a voucher, which he/she will be able to redeem shortly after that. Each purchase corresponds to a voucher and paying with MB Way is the only way to receive it.

Once the user frees the voucher, various prizes can come out, including discounts on certain brands such as Odisseias or Jerónimo Martins, tickets to festivals and money that can be accumulated on a balance between €1 and €200. The money can only be transferred to the user's account once it covers a minimum accumulated value of 10€ in the app.

Figure 3.1. Screenshots from Challenge - MB WAY



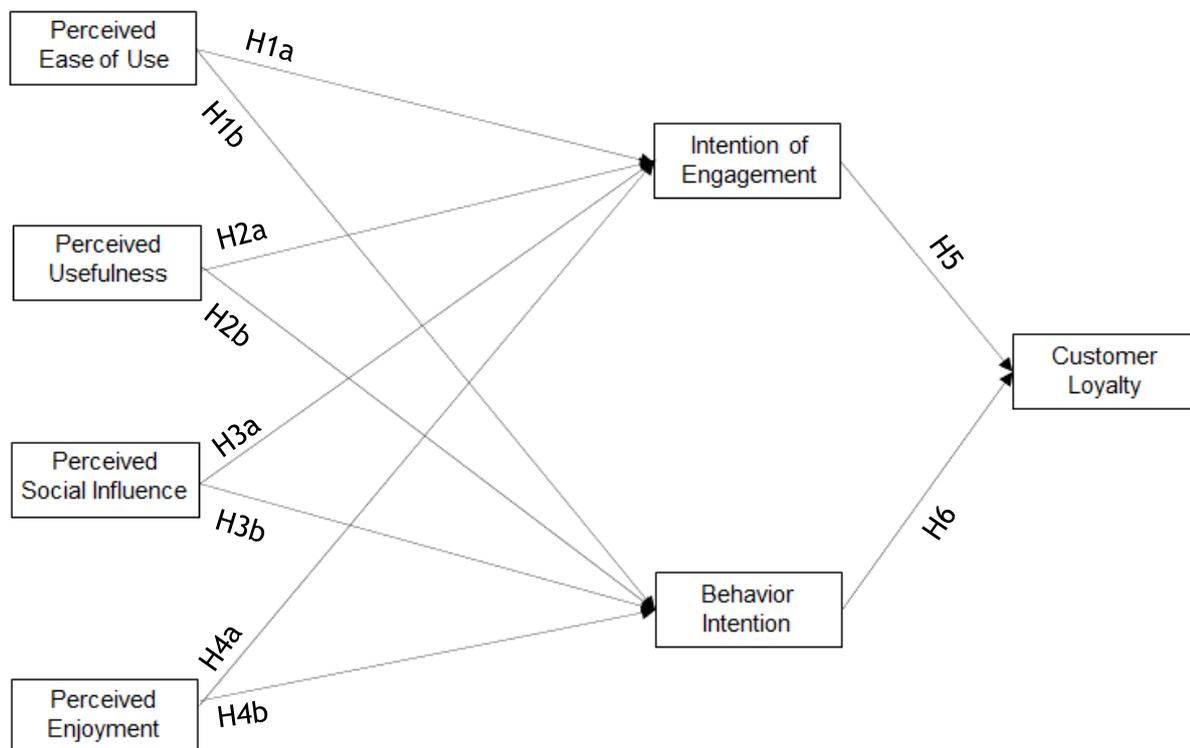
CHAPTER 4

CONCEPTUAL MODEL AND HYPOTHESIS

The present chapter will present and develop the research hypotheses of the respective study, as well as the respective conceptual model, based on the literature review developed, to ascertain the appropriateness of the research and identify its limitations.

4.1 Conceptual model and hypothesis

Figure 4.1. Conceptual Model



Source: Author's Elaboration
Adapted from: Szyszka (2019)

When considering the TAM (Technology Acceptance Model), we must consider its antecedents, in this case, a Theory of Reasoned Action (TRA). The TAM model corresponds to the acceptance of a given technology, whose determinants are perceived ease of use (PEOU) and perceived usefulness (PU) (Davis et al., 1989). The aim is to analyse the impact of external factors related to the technology on the user's usage intention and perceived usefulness behaviour (Davis et al., 1989). Davis (1989) identifies two determinants of this model, perceived ease of use (PEOU) and perceived usefulness (PU). However, coming from psychology, the TAR model emerged in 1975, according to Fishbein and Ajzen. The founders of this model state that before a person performs a specific action, he or she will consider its

consequences and implications. Thus, social aspects were considered relevant in adopting certain technology and represented as a perceived social influence (PSI).

Perceived ease of use (PEOU) corresponds to the level by which the use of that information system will not add extra effort, even facilitating that effort of use (Davis et al., 1989), being a factor that influences people's intention and attitude (Yang et al., 2017). Perceived ease of use is essential in the early stage of technology adoption, in which the individual is still analysing and learning how to use the technology. The lower the difficulty experienced by the user, the easier it is to accept the technology and possible future engagement (Venkatesh, 2000).

In turn, perceived usefulness (PU) corresponds to the level at which the user believes using a given information system will enhance his/her performance. Davis et al. (1992) considered perceived usefulness the most important factor in accepting technology. It is an indicator that evaluates the usefulness of a specific system to perform a particular task and can influence brand attitude and help predict people's attitudes towards a new technology (Yang et al., 2017). A technology that does not contain obstacles and facilitates processes becomes interesting for users who are more willing to accept and continue using that technology (Hamari & Koivisto, 2015).

Regarding acceptance technology, the perceived social influence (PSI) consists of a subjective norm, in which an individual considers other people's perception of certain behaviour or action, even if they recognize it or expect someone to perform it (Hamari & Koivisto, 2015). There are two aspects involved in the issue of social influence: mandatory technology acceptance and voluntary technology acceptance. Venkatesh and Davis (2000) concluded that people, based on social inflexion, accept a technology better and use it more recurrently when it is expected of them and serves an external purpose. On the other hand, a different result is created. Social influence does not significantly impact the user's use of technology when it is voluntary. This shows that people rely more on intrinsic motivations and feelings than social influence.

The author's research model is built on the Szyszka (2019) study, which was constructed on both TAM and TRA models, to investigate gamification in a marketing component as a service. Thus, the brand attitude was replaced by behaviour intention, and the customer loyalty variable was added to understand in more detail its influence. Thus, perceived ease of use, perceived usefulness, perceived social influence, and perceived enjoyment are independent variables compared to intention of engagement and behaviour intention, which are dependent. In turn, intention of engagement and behaviour intention are presented as mediator variables. However, they are independent of the customer loyalty variable.

This model differs from Szyszka (2019) study in that it is based on a technical service whose objective is to analyse the level of loyalty of its users and not the brand attitude, through another variable, in this case, the behaviour intention.

This model is relevant in this study since it will determine the user's intention to continue. If the user's attitude towards a given technology is favourable, it represents a relevant factor in the intention to use that technology. The same applies to mobile applications; if users show a favourable attitude towards them, they are willing to continue using them and may even recommend them to others (Hamari & Koivisto, 2015).

According to Davis, perceived ease of use corresponds to the degree of ease the user experiences when using a specific technology, i.e., the user is relieved of extra effort during such use (Davis & Bagozzi, 1989). The literature argues that when there is a more excellent perception of ease of use, the more significant the impact of technology will be at an early stage, which will more easily influence future engagement (Lucassen & Jansen, 2014).

Several authors who have concluded that when a particular technology is perceived as easy to use, it will have a favourable impact on the user's attitude/behaviour have explored this antecedent (Sun & Zhang, 2006). Regarding the framework of the case study, Zhu et al. (2012) considered perceived ease of use as a determining factor for mobile devices. Regarding the banking industry, some studies have confirmed that the perceived ease of use of mobile banking applications leads to a favourable attitude by users towards mobile banking (Sharma et al., 2022).

Thus, the following hypothesis was determined:

H1a: *Perceived ease of use will have a significant influence on intention of engagement.*

H1b: *Perceived ease of use will have a significant influence on behaviour intention.*

Some authors (Hamari & Koivisto, 2015) argue that usefulness influences engagement intention in the TAM model literature. Gamification can positively influence brand awareness and attitude (Lucassen & Jansen, 2014).

The concept of usefulness is subjective and related to using a particular technology to influence how each task is performed. In turn, perceived usefulness refers to the user's perception of the outcomes achieved (Rodrigues et al., 2016).

Rodrigues et al. (2016) analysed the concept of usefulness in gamified applications and concluded that there is a positive relationship between the behaviour/attitude of users towards these applications. Previous studies have concluded that favourably perceived usefulness in the banking industry positively influences users' intention towards mobile banking (Giovanis et al., 2019; Mohammadi, 2015).

Thus, the following hypothesis was developed:

H2a: *Perceived usefulness positively influences intention of engagement.*

H2b: *Perceived usefulness positively influences users' behaviour intention.*

Later, the TAM model was criticized for not considering important social aspects such as social influence. This factor is relevant as it represents the social aspects in the literature and concerns what others think about the behaviour of others, having a significant impact on human behaviour and attitude. People tend to behave according to what others believe that person should do, influencing behavioural intention (Venkatesh & Davis, 2000).

In turn, there are not many studies that reinforce the idea that perceived social influence has a significant impact on engagement and the intention to continue to use a given technology (Yang et al., 2017), so the following hypotheses are proposed:

H3a: *Perceived social influence has a positive impact on perceived engagement.*

H3b: *Perceived social influence has a positive impact on behaviour intention.*

The concept of engagement does not have a specific accepted definition; however, it involves three dimensions regarding the user experience, namely, cognitive, emotional and behavioural (Holdener et al., 2020). According to Rasool et al. (2020), from a marketing perspective, engagement corresponds to a series of characteristics that encompass the three dimensions, cognitive, emotional and behavioural, concerning the user-focal object relationship (product, brand, organization, for example), making more intense the degree of commitment in the relationship with such an objective.

In turn, Zhang et al. (2018) characterizes enjoyment as a feeling of satisfaction that the user has when using a given technology, regardless of the predictable consequences of performance. The use of game design elements in an application's gamification greatly influences the user experience as they complement it (Seaborn & Fels, 2015).

The concept of enjoyment is related to pleasure, entertainment and play, highlighting the role of intrinsic motivation, as it provokes in the user the intention to use the service (Hsu & Lin, 2008).

Thus, gamification plays an essential role in user engagement emotions, such as enjoyment, which will impact user engagement outcomes, such as loyalty. If the user experiences a feeling of enjoyment, the tendency to repeat the use of a given organization's service is higher (Bowden, 2009).

The concept of enjoyment was first studied in the context of computer games (Canio et al., 2021). The characteristics of the games directly influence the perception of enjoyment, and it has been concluded that it works as a catalyst in increasing the intention to use a technology (Heijden, 2003; Moon & Kim, 2001).

Boyle et al. (2011) and Bruner and Kumar (2005) concluded that the primary sensation in a game experience is enjoyment, and it is fundamental that a system is easy to use to be considered more fun.

Using the enjoyment component in an online gaming context has shown positive results in the users' behaviour towards games. Thus, gamification in mobile applications provides greater user enjoyment, directly correlated with their intention to use it. In the specific case of a mobile payment system application, if users find the gamified system "enjoyable", there is a higher probability of capturing an internal reward that leads them to have an extensive intention to use it (Rodrigues et al., 2016).

Thus, the following hypothesis is suggested:

H4a: *User's enjoyment will have a positive impact on user's engagement.*

H4b: *User's enjoyment will influence positively their behaviour intention.*

Like the tendency of loyalty programs in organizations, the concepts of engagement and customer engagement have been gaining relevance when it comes to achieving customer loyalty (Hwang & Choi, 2020).

Berger et al. (2017) considers that users who voluntarily participate in the gamified process are positively engaged. Since gamification is based primarily on extrinsic rewards and incentives, gamification directly influences intentional customer behaviour.

Harwood and Garry (2015) developed a model based on the customer engagement experience environment, in which they point out that gamification tools positively influence customer engagement behaviours, emotions, and consequently, customer outcomes, such as customer relationship and loyalty.

Stegenga (2018) concludes that gamification is a fundamental tool for customer satisfaction and engagement to promote customer loyalty.

Thus, the following hypothesis was defined:

H5: *The intention of engagement with gamification significantly influences customer loyalty.*

Behavioural intention is a factor that is directly associated with customer loyalty and depends on many factors, customer satisfaction being the main one. Behavioural intention is considered an intermediary between customer satisfaction and loyalty and includes several factors that influence customer loyalty, such as word-of-mouth and repurchase (Bloemer et al., 2003). The more satisfied the users are, the more likely they will return to the technology. A positive attitude creates a commitment between the user and the brand, reinforcing the relationship and sharing it with others (WOM). In this way, there is a strong possibility that users will become loyal (Kim & Youngmi, 2002).

With this, the following hypothesis was defined:

H6: *There is a positive relationship between behaviour intention and customer loyalty.*

Table 4.1. Research Hypotheses Summary

Research Hypotheses	Author(s)
H1a: Perceived ease of use will have a significant influence on intention of engagement.	Davis and Bagozzi (1989); Lucassen and Jansen (2014)
H1b: Perceived ease of use will have a significant influence on behaviour Intention	Zu and Lin (2012); Sharma (2022)
H2a: Perceived usefulness positively influences intention of engagement	Hamari and Koivisto (2015); Lucassen and Jansen (2014)
H2b: Perceived usefulness positively influences users' behaviour intention	Rodrigues et al. (2016); Giovanis et al. (2019); Mohammadi (2015);
H3a: Perceived social influence has a positive impact on perceived engagement	Yang et al. (2017)
H3b: Perceived social influence has a positive impact on behaviour intention	Venkatesh and Davis (2000)
H4a: User's enjoyment with will have a positive impact on intention of engagement	Seaborn and Fels (2015); Bowden (2009)
H4b: User's enjoyment will influence positively their behaviour intention	Heijden (2003); Moon and Kim (2001); Rodrigues et al. (2016)
H5: The intention of engagement with gamification significantly influences customer loyalty	Hwang and Choi (2020); Harwood and Garry (2015); Stegenga (2018)
H6 There is a positive relationship between behaviour intention and customer loyalty.	Bloemer et al. (2003); Kim and Youngmi (2002)

Source: Author's Elaboration

CHAPTER 5

METHODOLOGY

The following chapters correspond to the presentation of the data methodology of the respective study in order to identify the type of methodology applied and the respective target audience; the description of the structure of the questionnaire that will be essential in data collection; and the consequences of the research hypotheses and the definition of variables.

To obtain a clearer evaluation of the literature on how gamification influences consumer loyalty to a service, the empirical study will be based on a specific case: MB WAY Challenge.

5.1 Research approach

According to Kumar (2019), the research of the present study is classified as correlational and explanatory since it is intended to correlate two or more variables and analyse how this relation exists (Malhotra et al., 2017).

External secondary information was considered to conduct a more complex investigation based on scientific articles, resulting in a literature review. This review developed a conceptual framework that had never been tested.

Therefore, it was necessary to obtain primary data that resulted in the development of a survey. This information is classified as quantitative data and was applied to be statistically tested to study the validity of the relationship between variables. This method was chosen since it enables direct contact with MB WAY users; it is anonymous, which permits obtaining more sincere responses; and it reaches a wider variety of people, making the sample more diverse.

5.2 Data Collection

As previously mentioned, a survey was carried out to study the impact of gamification on customer loyalty, in this case, applied to MB WAY. Based on the literature review, the survey was developed using the Qualtrics Platform and scales were adapted from existing literature. Subsequently, its statistical analysis was performed using the Smart PLS4.0 platform. The intention was to develop an understandable survey, define each variable correctly and use a Five-Point Likert Scale.

The sample population was characterized by individuals of any nationality who may be MB WAY users, and no specific age was determined to allow a greater diversity of responses. A pilot test was conducted with a sample of twenty people to obtain their feedback and make the necessary adjustments to determine its suitability (Creswell, 2007). Meanwhile, users will be informed of this survey through the following social networks: Instagram, Facebook, Whatsapp,

and LinkedIn, to carry out a non-probabilistic sampling and resulting in a snowball effect. The period in which the survey was available was between 14th September 2022 and 25th September. Thus, 198 responses were observed, and only 100 were validated due to the lack of information in those responses.

5.3 Design of Questionnaire

The survey was divided into four parts and was designed in English to reach the most significant number of people. A brief presentation was made about the study's objectives, reinforcing the respondents' privacy and anonymity.

The first part of the survey was based on identifying MB WAY users and non-users. This question was essential since the Challenge (an MB WAY service) is the basis of this study. This question also identifies the reasons why people do not use MB WAY, and a set of hypotheses was provided to which respondents had to answer.

The second part filtered the population that has and has not experienced the MB WAY Challenge. This distinction was essential, as the population that has never experienced the Challenge was asked about their reasons for not having experienced it, and a set of hypotheses was provided to which the respondents had to respond.

The third part of the survey focused on the research model, consisting of a set of questions based on other authors to validate the research, in which respondents had to rate each sentence on a five-point Likert Scale (1 "Strongly Disagree" to 5 "Strongly Agree"). Measurement scales were based on other authors and their respective studies. For Perceived Ease of Use and Perceived Usefulness, three-item scales were used in each case, based on Davis' (1989) study. As for Perceived Social Influence, a four-item scale was adopted from Ajzen's (1991) study. For Perceived Enjoyment, a three-item scale based on the study by van der Heijden (2004) was used. To measure the Intention of Engagement, the scale was adopted from a three-item scale based on Davis and Venkatesh (2000). Behavioural intention, in turn, was based on a two-item scale based on Cronin et al. (2000), and Customer Loyalty was reflected in a two-item scale based on Zeithaml et al. (1996).

The fourth part dealt with the collection of the participants' sociodemographic data.

Table 5.1. Sources of measurement for variables used in third part of the survey

Variables	References
Perceived Ease of Use	Davis (1989)
Perceived Usefulness	Davis (1989)
Perceived Social Influence	Ajzen (1991)
Perceived Enjoyment	van der Heijden (2004)
Intention of Engagement	Davis and Venkatesh (2000)
Behaviour Intention	Cronin et al. (2000)
Customer Loyalty	Zeithaml et al. (1996)

5.4 Data Analysis

The structural equation method (SEM) with partial least squares (PLS) was used (Hair et al., 2013) to analyse the relationship and causal effects of the presented model. PLS-SEM has been widely used for IT research and researchers' exploratory theories and has changed the landscape of international management and marketing research (Henseler et al., 2009). The use of PLS is considered appropriate to analyse the measurement model and also to confirm the causality of a structural model. Data characteristics such as minimal sample size (Chin & Newsted, 1999), non-normal data, and the fact that it allows the computation of reflective or formative measurement methods through a wide variety of causality models associated with cause-effect (Diamantopoulos & Winklhofer, 2001) are the main reasons for implementing PLS-SEM. Thus, the structural equation model based on PLS was conducted using Smart PLS 4.0.

CHAPTER 6

RESULTS AND FINDINGS

6.1 Sample Characteristics

Table 4 represents the sample description of gender, age, MB WAY user, Challenge user, and frequency of use of the MB WAY app. After analysing the results, 198 participants were considered, as the sample consists of 101 (51%) men and 97 (49%) females. Regarding the age of the respondents, the highest percentage is between 18-30 years old, with a total of 101 (51%) participants. Regarding MB WAY, it was important to understand why the 10 (9%) participants did not use the application. There were 188 (91%) MB WAY users for future conclusions. Considering the Challenge, only 100 (51%) participants have experienced the Challenge at least once. Finally, regarding the frequency of use of MB WAY, the variable "almost every day" stood out with 66 (35.1%) of the participants.

All participants were considered for the sample description to serve as future support for the application of MB WAY. It is essential to understand why participants have never tried the Challenge. In turn, for the statistical data analysis regarding the variables under study, only the participants who have already experienced the Challenge were considered, i.e., 100 participants.

Table 6.1 Sample Characteristics

Characteristics	Frequency	(%)
Gender		
Masculine	101	51%
Feminine	97	49%
Other	--	--
Age groups		
<18	6	3%
18-30 years old	101	51%
31-45 years old	49	25%
46-55 years old	27	14%
>55 years old	15	8%
MB WAY users		
Yes	188	91%
No	10	9%
MB WAY Challenge Users		
Yes	100	51%
No	98	49%
Frequency of app use		
More than once a day	27	14,4%
Almost every day	66	35,1%
Once in 2-3 days	33	17,6%
Once in 4-5 days	28	14,9%
Once every week	21	11,2%
Once every month	11	5,9%
Once every three months	1	0,5%
Once every six months	1	0,5%
Once every year	--	--

Measure in a five-point Likert Scale
(1=Strongly Disagree;
5=Strongly Agree)

6.2 Analysing the Model

6.2.1 Measure Model Analysis

The purpose of the measurement model is to highlight the relationships between the constructs and their corresponding indicators (Hair et al., 2013). The present model consists of six reflective constructs (PEOU, PU, PSI, PE, IE, and BI) and one single-item construct (CL). It is necessary to verify the reliability and validity of reflective measurement models (Henseler et al., 2009).

As for the outer loadings, some authors argue that values above 0.70 reflect sufficient levels of reliability. Hair et al. (2017) state that such indicators should be removed when the external loadings have values between 0.40 and 0.70. Another exception for indicators to be removed, according to the author, is when the extraction of such indicators in the model increases composite reliability (CR) and Average Extracted Variance (AVE). Therefore, one item in the model was verified to have an external loading of 0.494 - "PEOU3". After verifying that this indicator does not meet the levels required to continue the study, the respective indicator was removed from the model to improve its quality.

Cronbach's Alpha and Composite Reliability were used to assess the reliability and internal consistency, and both values should be higher than 0.7. As seen in Table 5.2, all Cronbach's Alpha values vary between 0.812 and 0.974, and Composite Reliability between 0.893 and 0.979, being higher than 0.7 and guaranteeing the reliability and consistency of the present data.

Concerning assessment validity, there are two criteria to be considered: convergent and discriminant validity. According to Fornell and Larcker (1981), a model has convergent validity if the AVE value exceeds 0.5. This means that, on average, the latent variables can account for more than half of the variance of its indicators. As we can see in table 5.2, the values are between 0.736 and 0.974, which means that the model converges to a positive result, concluding that the model has convergent validity.

Table 6.1. Reliability measurement of reflective variables (n=100)

Measurement Item	Cronbach's Alpha (α)	Composite Reliability	AVE
Perceived Ease of Use	0.812	0.913	0.840
Perceived Usefulness	0.827	0.920	0.852
Perceived Social Influence	0.940	0.957	0.848
Perceived Enjoyment	0.920	0.949	0.862
Intention of Engagement	0.824	0.893	0.736
Behaviour Intention	0.974	0.987	0.974
Customer Loyalty	0.957	0.979	0.959

Finally, the last stage to examine the assessment of the measurement model corresponds to the analysis of discriminant validity, which according to Sarstedt et al. (2017), the most used criterion for this assessment is through Fornell-Larcker and Cross-Loading. Regarding the Fornell-Larcker criterion, a latent variable should have a more significant variance correlation with its designated indicator than it should have with any other latent construct. This model has discriminant validity if the square root of each latent variable AVE is greater than the correlation between the latent variables. A variable exhibits greater variance with its associating indicators than with other constructs. As observed in table 5.3, the model dimensions are valid and comply with the respective criterion.

Table 6.2. Fornell-Larcker Criterion (n=100)

	BI	CL	IE	PE	PEOU	PSI	PU
BI	0.987						
CL	0.323	0.979					
IE	0.081	-0.078	0.858				
PE	0.118	0.126	0.557	0.929			
PEOU	0.135	0.090	0.439	0.569	0.917		
PSI	0.264	0.526	0.057	0.246	0.207	0.921	
PU	0.755	0.256	0.237	0.355	0.280	0.458	0.923

Notes: Diagonal values indicate the AVE; correlation coefficients that lie outside the diagonal suggest squared correlation BI – Behaviour Intention; CL – Customer Loyalty; IE – Intention of Engagement; PE – Perceived Enjoyment; PEOU – Perceived Ease of Use; PSI – Perceived Social Influence; PU – Perceived Usefulness

In turn, a model has a discriminant validity when there are correlations with higher values with its latent variable than the others. As observed in table 5.4, the criteria conditions were verified.

Thus, after this analysis, it was concluded that all the evaluation criteria were met, supporting and reinforcing the model's reliability and validity.

Table 6.3. Cross-Loadings

	BI	CL	IE	PE	PEOU	PSI	PU
BI1	0.988	0.356	0.080	0.146	0.143	0.254	0.742
BI2	0.987	0.280	0.080	0.086	0.123	0.267	0.748
CL1	0.324	0.980	-0.057	0.119	0.104	0.534	0.255
CL2	0.308	0.979	-0.095	0.128	0.071	0.495	0.246
IE1	0.018	-0.096	0.849	0.399	0.305	-0.030	0.174
IE2	0.091	-0.060	0.867	0.425	0.372	0.047	0.215
IE3	0.088	-0.051	0.858	0.577	0.432	0.106	0.215
PE1	0.097	0.097	0.550	0.936	0.582	0.254	0.306
PE2	0.095	0.044	0.494	0.907	0.487	0.090	0.319
PE3	0.138	0.210	0.506	0.943	0.512	0.334	0.366
PEOU1	0.180	0.135	0.334	0.540	0.898	0.295	0.299
PEOU2	0.079	0.040	0.460	0.508	0.935	0.106	0.224
PSI1	0.248	0.498	0.047	0.236	0.159	0.942	0.455
PSI2	0.288	0.563	0.007	0.235	0.160	0.949	0.439
PSI3	0.231	0.425	0.124	0.219	0.282	0.889	0.392
PSI4	0.187	0.430	0.033	0.213	0.159	0.903	0.396
PU1	0.602	0.244	0.289	0.378	0.331	0.458	0.909
PU2	0.777	0.229	0.161	0.287	0.198	0.395	0.937

6.2.2 Structure Model Analysis

Before evaluating the structural model, a test was performed for multicollinearity, which represents a threat to the experimental design of the model (Farrar & Glauber, 1967). The structural or inner model represents the relationship between the latent variables. If the values calculated by the variance inflation factor (VIF) show results below 5, there is no multi-collinearity. Table 5.5 verifies that the model does not present multicollinearity since the values are below 1.582, and we can proceed with the analysis.

An evaluation of the quality of the structural model was performed through bootstrapping, which simulates some subsamples obtained from the original data set, representing a resampling technique. 1000 samples were generated from 100 examples using the bootstrapping method to evaluate the model.

Table 6.4. Collinearity Statistics (VIF)

	Behaviour Intention	Intention of Engagement	Customer Loyalty
Behaviour Intention			1.007
Intention of Engagement			1.007
Perceived Enjoyment	1.582	1.582	
Perceived Ease of Use	1.497	1.497	
Perceived Social Influence	1.282	1.282	
Perceived Usefulness	1.383	1.383	

For this study, the coefficient of determination (R^2) corresponds to a measure of model predictive power. This measure presents the variation in the endogenous constructs clarified by the associated constructs (Sarstedt et al., 2017). The range of R^2 values for endogenous constructs are 0.75, 0.50, or 0.25, being substantial, moderate, or weak, respectively. Table 5.6 shows that the R^2 for the dependent variables is 0.601 for BI, representing a moderate value. According to this study, all exogenous variables accounted for 60.1% of the variance in BI. In turn, 34.7% of the variation in IE is explained by all the variables associated with this construct, which is considered a moderate value. In turn, CL presents a significantly weak R^2 (0.115), which means that the exogenous variables used the account for 11.5% of the variation in Customer Loyalty. Despite these results, it can be stated that the model studied is adequate to clarify the endogenous variation of the variables.

Table 6.5. R^2

	R^2	R^2 (Adj.)
Behaviour Intention	0.601	0.585
Intention of Engagement	0.347	0.319
Customer Loyalty	0.115	0.097

Finally, checking the effect size of exogenous constructs in explaining R^2 (f^2) is important. According to Cohen (1988), f^2 values correspond to 0.02 (small impact); 0.15 (medium impact); and 0.35 (large impact). Values below 0.02 reflect the idea that there is no impact (Sarstedt et al., 2017). As table 5.7 demonstrates, the variables with a strong effect are Perceived Usefulness, with a powerful effect on Behaviour Intention (1.317), and Perceived Enjoyment, with a large effect (0.200) on Intention of Engagement. With a medium effect are the variables Perceived Enjoyment (0.045) on Behaviour Intention; Behaviour Intention (0.123)

on Customer Loyalty; Perceived Ease of Use (0.035) on Intention of Engagement; and Perceived Social Influence (0.021) on Intention of Engagement. All the remaining constructs have weak effects.

Table 6.6. f^2

Construct	Intention of Engagement	Behaviour Intention	Customer Loyalty
Intention of Engagement			0.012
Behaviour Intention			0.123
Perceived Enjoyment	0.200	0.045	
Perceived Ease of Use	0.035	0.000	
Perceived Social Interaction	0.021	0.015	
Perceived Usefulness	0.008	1.317	

The path coefficients (ranging from -1 to +1) and significance levels were analysed to evaluate the relevance of the structural model's relationships. The higher the path coefficient number, the higher the relationship between the constructs (Sarstedt et al., 2017).

In table 5.8, we see that there are path coefficients with values that represent a weak relationship: Perceived Ease of Use and Behaviour Intention (0.010); Perceived Usefulness and Intention of Engagement (0.091); Perceived Social Influence and Intention of Engagement (-0.128); Perceived Social Influence and Behaviour Intention (-0.084); and Intention of Engagement and Customer Loyalty (-0.105). Assuming a 5% significant level, we can validate that hypotheses H1b, H2a, H3a, H3b, and H5 are not supported. On the other hand, the remaining hypotheses are shown to be statistically significant.

Table 6.7. Structural model results

#	Relationship	Path Coefficients	T Statistics	p values
H1a	PEOU → IE	0.189	1.753	0.040
H1b	PEOU → BI	0.010	0.126	0.450
H2a	PU → IE	0.091	0.795	0.213
H2b	PU → BI	0.852	15.760	0.000
H3a	PSI → IE	-0.128	1.354	0.088
H3b	PSI → BI	-0.084	1.367	0.086
H4a	PE → IE	0.439	3.741	0.000
H4b	PE → BI	-0.168	2.164	0.015
H5	IE → CL	-0.105	0.999	0.159
H6	BI → CL	0.337	3.852	0.000

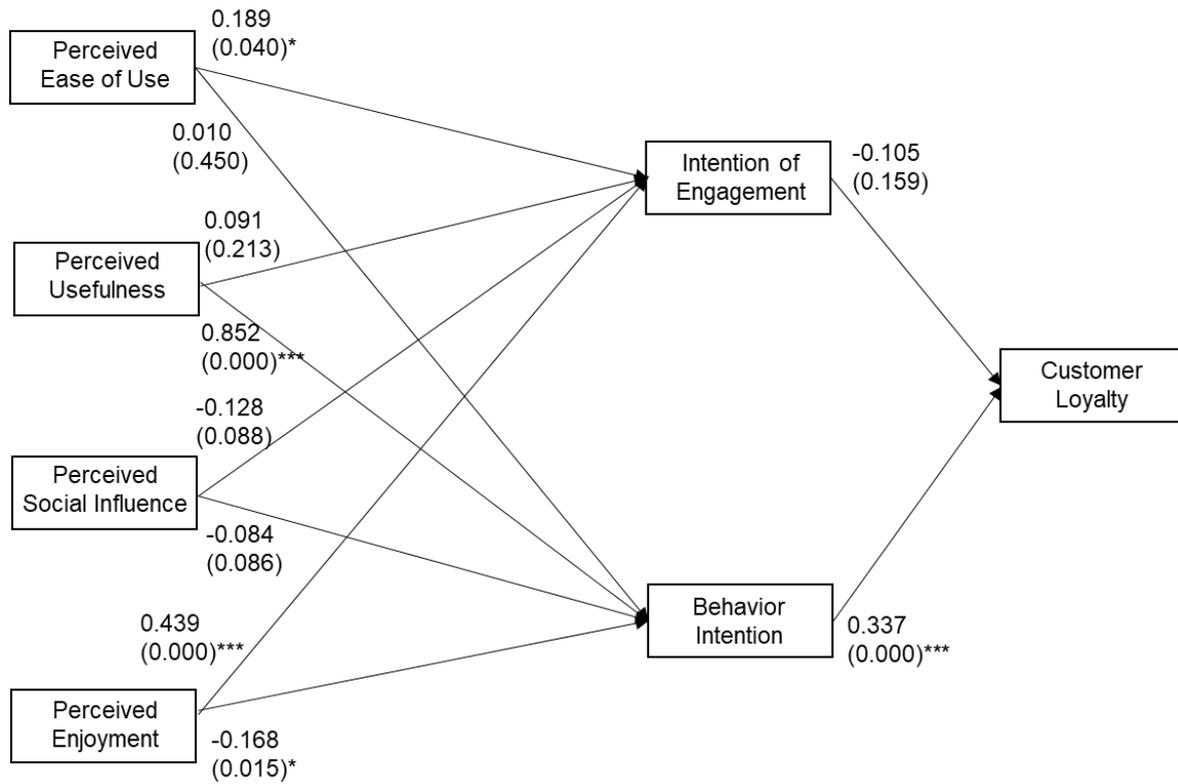
Note: Bootstrapping times: 1000

Table 6.8. Hypothesis Validation Summary

Hypothesis	Conclusion
H1a: Perceived ease of use will have a significant influence on intention of engagement.	VALIDATED
H1b: Perceived ease of use will have a significant influence on behaviour Intention	REJECTED
H2a: Perceived usefulness positively influences intention of engagement	REJECTED
H2b: Perceived usefulness positively influences users' behaviour intention	VALIDATED
H3a: Perceived social influence has a positive impact on perceived engagement	REJECTED
H3b: Perceived social influence has a positive impact on behaviour intention	REJECTED
H4a: User's enjoyment will have a positive impact on intention of engagement	VALIDATED
H4b: User's enjoyment will influence positively their behaviour intention	VALIDATED
H5: The intention of engagement with gamification significantly influences customer loyalty	REJECTED
H6: There is a positive relationship between behaviour intention and customer loyalty.	VALIDATED

(Author's Elaboration)

Figure 6.1 PLS Results of Structural Model



Note: Bootstrapping times: 1000; *p < 0,05, **p < 0,01, ***p < 0,001

Source: Author's Elaboration
Adapted from: Szyszka (2019)

CHAPTER 7

HYPOTHESIS DISCUSSION

This research aims to understand the impact of gamification on customer loyalty through intention of engagement and behavioural intention in the specific case of the MB WAY Challenge through the design and operation of an adoption model based on the technology acceptance model (Davis, 1989).

Six dimensions were used as the basis for the adoption analysis: Perceived Ease of Use, Perceived Usefulness, Perceived Social Interaction, Perceived Enjoyment, Intention of Engagement, and Behavioural Intention. The model for technology adoption to gamification on the Challenge explains a variance of 60.1% for behaviour intention of using the Challenge, 34.7% for engagement with the Challenge, and 11.5% for customer loyalty to using the Challenge.

H1a: *Perceived ease of use will have a significant influence on intention of engagement*

The results indicate that Perceived Ease of Use positively influences Intention of Engagement ($\beta=0.189$; $t=1.753$; $p<0.040$). This result confirms the original assumptions supported by previous studies that argue that ease of use is a relevant factor when predicting willingness (Davis et al., 1992) to use a given system. In turn, according to the results of our study, this willingness to use a system leads to the user's perceived intention to engage with it. Therefore, the perceived ease of use of the Challenge leads users to engage with the activity and gain the perception of engagement with the brand.

H1b: *Perceived ease of use will have a significant influence on behaviour Intention*

According to the results obtained, the variable Perceived Ease of Use has no significance on Behaviour Intention ($\beta=0.011$; $t=0.126$; $p<0.899$), contrary to what other studies have concluded. However, this result is in line with previous studies that indicate that only a direct relationship between Perceived Ease of Use and Behaviour Intention occurs through Perceived Usefulness (McCoy et al., 2005). This is in line with Davis (1989, p.139), who argues that "perceived of use may be a casual antecedent to perceived usefulness as opposed to a parallel, direct determinant of system usage". From this, we conclude that it is not because the user considers the service activity easy to use that will lead him to act or to have behavioural intentions. Challenge is an extra service of MB WAY, and many people do not use it because they consider it easy. Rodrigues et al. (2016), in their study of gamification in e-banking, concluded that perceived ease of use does not directly affect behavioural intention.

H2a: Perceived usefulness positively influences intention of engagement

Contrary to what other studies have concluded (Szyszka, 2019), our findings revealed that Perceived Usefulness has no significance on Intention of Engagement ($\beta=0.091$; $t=0.795$; $p<0.213$). However, with this result, we can conclude that perceived usefulness is not a crucial long-term factor in maintaining the Intention of Engagement. In other words, the usefulness of technology is important in the first phase so that the user understands the benefits of the service. If the Challenge gamification mechanisms are not updated, the user experience will no longer be exciting and fun and will not contribute to the intention of engaging with the brand (Hollebeek et al., 2019).

H2b: Perceived usefulness (PU) positively influences users' behaviour intention

Perceived Usefulness was found to positively influence users' Behaviour Intention ($\beta=0.852$; $t=15.760$; $p<0.000$). These results are in line with previous studies on users' behaviour intention, which conclude that perceived usefulness positively influences users' attitudes that will influence their behaviour intention. Brunello (2014) concluded that perceived usefulness strongly predicts individual intention to use a technological system, predicting the user's behavioural intention. Thus, the perceived usefulness of the Challenge and all that it involves (facilitating the form of payments through the mobile application) causes users to have a positive attitude towards the service and the brand.

H3a: Perceived social influence (PSI) has a positive impact on intention of engagement

According to the results obtained, we can observe that Perceived Social Influence has no significance or influence on Intention of Engagement in this gamified process ($\beta=-0.128$; $t= 1.354$; $p<0.088$), meeting the results obtained by Mathieson (1991) and Yang et al. (2017). The authors add that this result contributes to the development of the study in the literature since these results are contradictory as to the impact of social influence on behavioural intentions. According to the MB WAY Challenge, this result was already expected since the only social component is sharing the existence of the Challenge, and there is no interaction between players, leading to no vital social component associated.

H3b: Perceived social influence (PSI) has a positive impact on behaviour intention

Perceived Social Influence in our analysis is not considered a significant predictor of Behavioural Intention ($\beta=-0.084$; $t= 1.367$; $p<0.086$). The results obtained differ from other studies in which they state that social influence is a relevant factor affecting behavioural intention (Yasin & Islam, 2021). We save that mobile application usage is based on the user's

decision, but we propose that the results mean that in the case of the MB WAY Challenge, there is no usage based on social influence. However, our findings align with the study of Wut et al. (2021), which also concludes that social influence is not related to behavioural intention.

H4a: User's enjoyment will have a positive impact on user's engagement

This value ($\beta = 0.439$; $t = 3.742$; $p < 0.000$) is in line with Natalia Szyszka's (2019) previous research, which states that a link between enjoyment and users is established. Thus, users perceive that when they consider the service activity as playful, the probability of creating engagement and having a good perspective of the brand increases. Thus, enjoyment is essential to positively contribute to engagement (Hernik & Jaworska, 2018). Harwood & Garry (2018) and Davis (1989) argues that enjoyment is the biggest motivation for game players and that many people aim to seek players through games.

H4b: User's enjoyment will influence positively their behaviour intention

The hypothesis H4b test showed that Perceived Enjoyment has significance on Behaviour Intention ($\beta = -0.168$; $t = 2.164$; $p < 0.015$), but negatively. The significance of Perceived Enjoyment with Behaviour Intention exists, as other authors have argued. However, it shows a distinct value and H4b is supported. This result appeared similarly to Chao (2019) study, where the relationship between variables was significant but negative. With this result, we can conclude that it is not because the Challenge is enjoyable that it will cause the user's behavioural intention. We suppose that there are factors that have more influence on the Challenge that makes enjoyment not enough to promote users' behaviour intention.

H5: The intention of engagement with gamification significantly influences customer loyalty

The results show that Perceived Engagement does not significantly influence Customer Loyalty ($\beta = -0.105$; $t = 0.999$; $p < 0.159$). This result is different from other studies that were considered for this study (Zaid & Patwayati, 2021). This means that Challenge users who perceive engagement with the activity will not be influenced to be loyal to the service and brand. In other words, the Challenge does not promote brand loyalty through engagement with its gamification component.

H6: There is a positive relationship between behaviour intention and customer loyalty.

The results obtained in this study are in line with the results of Kamali et al. (2021) and shows that behaviour intention has a direct impact on customer loyalty ($\beta = 0.331$; $p < 0.000$). Word-of-mouth and repeating the challenge are contributing to behaviour intention positively

contributing to customer loyalty. Earning vouchers by sharing the Challenge (WOM) with friends influences the behaviour intention of future users. By making payments through the app to win a voucher, new users begin to perceive the usefulness of the "Pay with MB WAY" service, which makes them loyal to the brand and not to the Challenge activity itself.

CHAPTER 8

CONCLUSION

8.1 Principal Results and Conclusion

In past studies, authors have focused on the impact of gamification on the antecedents of customer loyalty. However, gamification emerged in 2010, and there are few studies of its applicability to customer loyalty in mobile financial applications. Therefore, the primary purpose of this research was to analyse the impact of gamification through the TAM model and enjoyment on users' perceived engagement and intention behaviour and its impact on customer loyalty.

According to the findings of this research, Perceived Ease of Use positively influences Perceived Engagement, which suggests that the gamification of the Challenge is considered easy and leads users to participate more often, increasing users' intention to engage. The experience may not even be relevant, but since it is easy and does not require much effort, users will experience it. Moreover, Perceived Enjoyment also significantly influences the Intention of Engagement, which shows that the more fun the experience is, the higher the user's intention of engagement. The opposite can also occur.

In turn, Perceived Usefulness and Perceived Social Influence have no impact on the Intention of engagement. One fact that leads us to consider this, may be associated with the factors analysed on the dark side of gamification, i.e., the user may consider the Challenge activity usefulness. However, if it does not create excitement, does not innovate, and does not consider the user's interests, it will never create the user's intention to engage with the activity. However, the results showed that Perceived Usefulness has a significant impact on Behaviour Intention, which highlights that if users find a practical challenge, there is a higher probability of Behavioural Intention. On the other hand, Perceived Enjoyment shows a sign of Behaviour Intention, however negative. This result may arise from the fact that people consider the Challenge to be fun is not enough to have behaviour intention. This issue may result as a consequence of the applicability of gamification. The fact that no prize constantly comes out to users, even though they find the Challenge fun, will stop experiencing it. This reflects that enjoyment is not a positively significant factor in Behaviour Intention. Perceived Ease of Use and Perceived Social Influence has no impact on Behaviour Intention.

Finally, Behaviour Intention influences Customer Loyalty. This result means that Challenge users, when perceiving the purpose of gamification, have an interest that leads them to have Behaviour Intention. When this happens, there is a strong probability that the user will become loyal to the brand. In this specific case, the goal of the Challenge is to attract users to make payments using the MB WAY app. In other words, it is to awaken the ease and necessity of

users to pay in the MB WAY app and attract them through the Challenge. Thus, when users realize the purpose of the Challenge, they end up having behaviour intentions when making online payments and winning a voucher, making this a routine for users and, thus, making them loyal to the brand. In turn, engagement intention does not significantly influence customer loyalty.

Therefore, this study aims to contribute with empirical details on the influence of gamification on some antecedents of customer loyalty and, subsequently, on customer loyalty in the context of the mobile financial application.

8.2 Management Implications

This study provides important results for management and marketing as the results show how gamification integrated into a mobile financial app reaches users and makes them respond to the product or service. Through this research, managers can evaluate and define the best way to reach users and understand what can be improved, and academics have a greater knowledge of marketing applied through gamification.

The study found that the mobile application MB WAY is heavily used by the community. People use the app because of its accessibility and usefulness and consider it a good tool to make online payments. However, the gamification of MB WAY is aimed at reaching new users rather than building loyalty. The results show that users stop using the Challenge, which attracts them only for a short period of time. Considering that the purpose of the Challenge is for MB WAY users to make payments through the app, managers can consider how to better invest and communicate with their users through gamification and also provide them with a dynamic and engaging aspect of the activity. The more loyalty they have to the Challenge, the more payments users will make just so they can experience the gamification component more often.

It is important for managers to decide how best to reach all users, since the entire community is a user of this service. The results show that perceived enjoyment has a great impact on engagement intention. Therefore, managers should choose tools that promote fun in the app. Besides being useful, they can compile it with enjoyment, adding an interactive aspect. In this way, it is important to align the different target audiences to ensure the success of the gamification activity

Another aspect to consider is the type of reward associated with gamification. Managers need to consider all positive and negative aspects of the associated rewards, as users are often extrinsically motivated and only value the reward component. Managers should carefully manage the product/service and the prize so that users use gamification because of the prize (extrinsic motivation) and, over time, recognize the value of the brand and its products/services, becoming loyal (intrinsic motivation).

8.3 Limitations and Future Research Recommendations

There are certain limitations in this study that should be considered for future development.

First, the sample size was limited in two respects: only 198 observations were reached, which limits the results to a small number of people; only the population that uses MB WAY and has experienced the Challenge was considered in the analysis, reducing to several 100 observations. In future studies, reaching a larger number of observations might be interesting to have a more cohesive conclusion.

The sample was composed of 100 observations, and the predominant age is between 18 and 35, i.e., students and workers who are at an early stage or finishing that early stage of their career. For future studies, a greater distribution between ages should be sought to achieve results from different generational gaps, since the perception of young people facing gamified experiences is different from that of an adult (>50 years old).

Third, the quantitative analysis was performed using an online survey. A qualitative analysis, such as interviews, could be conducted for future studies, as this would have enhanced and improved the study.

Fourth, the study and results were based on only one application, MB WAY. For future studies, one can consider the present model for a more significant and considerable number of mobile applications that contain the gamification component.

The present study only focuses on analysing the implication of gamification on customer loyalty through engagement and behaviour intention. It would be interesting to continue the analysis from the TAM model and enjoyment and to study other antecedents of customer loyalty (such as the type of rewards, and type of players, among others) to have a more complex analysis of the impact of gamification on customer loyalty.

In turn, this research is among the first to empirically assess the adoption of mobile financial applications with gamification elements. The goal of gamification is to get users to make payments through the mobile application. This study also highlights points that can be considered in mobile financial applications regarding the impact of gamification on users and how they view this activity. The research also highlights some reasons why MB WAY users do not consider the Challenge, which may serve as a reference for the brand and to understand how this trend can be changed.

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APPENDIXES

Appendix A. Sample characteristics

Category	
Gender	Female
	Male
Age	< 18 years old
	> 18-30 years old
	30-45 years old
	46-55 years old
	> 55 years old
Frequency of app use	More than once per day
	Almost every day
	Once in 2-3 days
	Once in 4-5 days
	Once in a week
	Once in a month
	Once in three months
	Once in six months
	Once a year

Appendix B. Questionnaire

Construct	ID	Items	Scale	
Respondent Profile	AGE	Age	Years	
	GENDER	Gender	Female; Male	
	FREQ	Frequency of app use	-	
Construct	ID	Items	Scale	Reference
Perceived Enjoyment	PE1	I find the experience of the Challenge enjoyable.	Five-point Linkert scale	Heijden (2004)
	PE2	I find the experience of the Challenge exciting.		
	PE3	I find the experience of the Challenge interesting.		
Intention of Engagement	IE1	I predict that I will keep using the Challenge in the future at least as much as I have used it lately.	Five-point Linkert scale	Davis & Venkatesh (2000)
	IE2	I predict that I will use the Challenge more frequently rather than less frequently.		
	IE3	It is likely that I will use the Challenge more often rather than less often during the next couple months.		
Perceived Ease of Use	PEOU1	I find the Challenge easy to use.	Five-point Linkert scale	Davis, 1989
	PEOU2	Using the Challenge does not require a lot of mental effort.		
	PEOU3	The interaction with Challenge is clear and understandable.		
Perceived Usefulness	PU1	This Challenge makes me realize how useful is to make payments using the MB WAY app.	Five-point Linkert scale	Davis, 1989
	PU2	I find this Challenge useful to MB WAY app.		
	PU3	Using Challenge makes it easier for me to start making payments.		
Behavior Intention	BI1	The probability that I will use the Challenge again is high.	Five-point Linkert scale	Cronin et al. (2000)
	BI2	If I had to do it over again, I would make the same choice		
Perceived Social Influence	PSI1	People who influence my attitudes would recommend Challenge	Five-point Linkert scale	Ajzen, 1991
	PSI2	People who are important to me would think positively of me using Challenge		
	PSI3	People who I appreciate would encourage me to use Challenge		
	PSI4	My friends think using Challenge is a good idea.		
Customer Loyalty	CL1	I would like to continue using this app for the next few years	Five-point Linkert scale	Zeithal et al. (1996)
	CL2	I would consider this app my first choice to make payments.		

Appendix C. Path model (Smart PLS 4 results)

