



UNIVERSIDADE CATÓLICA PORTUGUESA

The strategic use of Gamification in Brands' CRM

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Abstract – English

Title: The strategic use of Gamification in Brands' CRM Author: Patrícia Costa

The main objective of this dissertation is to analyze the strategic impact of Gamification in brands' and retailers' CRM strategy, with a deep focus on loyalty and reward programs. Having this in mind, the main research questions of this dissertation aim to understand if there are certain characteristics in Gamification that generate value for the end-user and if Gamification can be a source of sustained competitive advantage for firms in the retailing industry.

With a view to be able to answer the two research questions, a “Gamification in CRM processes” is proposed, aiming at enumerating the main functionalities of Gamification that may have an impact in a CRM strategy. Through an online survey, taken by 191 people from 25 different nationalities, it is possible to confirm that consumers are interested in participating in a gamified platform and in providing relevant data to brands and retailers in order to receive personalized offers. Moreover, it is also ascertained that Gamification has a potential to increase brand loyalty levels.

Gamers' Tacit Knowledge is then identified as a strategic resource that can be obtained by a gamified application. When applying the RBV framework it is possible to conclude that Gamers' Tacit Knowledge is a VRIN resource, since it is related to a deep organizational learning and to continuous innovation. This is mainly explained by the nature of a Gamified application - based on human interaction and subject to network externalities, which increases the switching costs to current and potential competitors, and provides companies with a knowledge advantage over their competitors. Gamification can, indeed, create value for brands and be a source of sustained competitive advantage.

Abstract – Portuguese

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O principal objectivo desta dissertação é analisar o impacto estratégico de Gamification nas estratégias de CRM (Customer Relationship Management) de marcas e retalhistas, tendo especial enfoque em programas de fidelidade e recompensas. Deste modo, as principais questões da investigação pretendem compreender se existem características numa estratégia de Gamification capazes de gerar valor para o consumidor final, e se Gamification pode ser uma fonte de vantagem competitiva sustentável para as empresas que operam na indústria retalhista.

Tendo em vista a resposta a estas duas questões de investigação, é proposto o modelo “Gamification em processos de CRM”, que visa enumerar as principais funcionalidades de Gamification que podem ter um impacto numa estratégia de CRM. Através de um questionário online, respondido por 191 pessoas de 25 nacionalidades distintas, é possível confirmar que os consumidores estão interessados em participar em plataformas gamificadas e em providenciar informação relevante a marcas e retalhistas, de modo a receberem ofertas personalizadas. Adicionalmente, é ainda verificado que Gamification possui potencial para aumentar os níveis de fidelidade a uma marca.

Conhecimento tácito é identificado como um recurso estratégico que pode ser extraído de uma plataforma gamificada. Com a aplicação do modelo RBV é, então, possível concluir que o conhecimento tácito é um recurso VRIN, uma vez que se encontra relacionado com um processo de aprendizagem organizacional e com inovação contínua. Isto é maioritariamente explicado pela própria natureza de uma plataforma gamificada - baseada na interacção humana e sujeita a efeitos de rede, o que aumenta os custos de mudança para concorrentes existentes e potenciais, e faz com que as empresas tenham uma vantagem no conhecimento face a concorrentes. De facto, Gamification pode criar valor para marcas e ser uma fonte de vantagem competitiva sustentável.

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1 INTRODUCTION

Nowadays brands and retailers face a fierce environment due to an increase in competitiveness levels (Anderson et al, 2007). Customer loyalty has been put in the center of the strategy, in order to retain existing customers, by means of loyalty and reward programs (Gómez et al, 2012). However, customers are getting more unwilling to engage in loyalty and reward programs due to a significant amount of time that has to be spent (Burle, 2012).

The concept of gamification has been gaining a lot of buzz in the past few years (Huotari et al, 2012). It can be defined as "the use of game design elements in non-game contexts"(Deterding et al, 2011). The core strategy in designing such a game-based campaign is to enhance engagement (Fitz-Walter et al, 2011) and to drive loyalty (Burle, 2012).

In a study by Gartner Inc, it is predicted that by 2015, 50% of corporate innovation will be gamified. The company also states that by 2016, gamification will become a fundamental asset for brands to stimulate customer marketing.

Additionally, it is relevant to mention the importance of retailers to adopt a Meaningful Gamification Model, a concept introduced by Nicholson (2012). Nicholson affirms that the mere "pointification" system per se can only give a short-term advantage to the organization.

With this said, the goal of this dissertation is to study into which extent the use of Gamification campaigns in retailers' and brands' CRM impacts the levels of engagement and loyalty of the final customer and to assess if there are some game mechanisms and dynamics that combined would allow a retailer to achieve a sustainable competitive advantage.

The two main research questions of this dissertation are:

- 1. Are there characteristics in a Gamification strategy that create value for the end user?**
- 2. Can brands and retailers attain a sustainable competitive advantage by incorporating Gamification in their CRM practice?**

In order to address these Research Questions, a “Gamification in CRM processes” model is built in order to assess the impact of the main gamification features, extracted from a careful analysis of the existing literature on the subject, in several modules of retailers’ CRM framework, as suggested by Verhoef (2010). Thereafter, based on the this model, the main functionalities of a Gamification campaign are tested by means of a survey, in order to infer the extent of which they may be valuable for the end-user and if they may increase the engagement levels towards a certain brand.

Subsequently, the RBV framework (Wernerfelt, 1984) is used in order to assert if an enhanced CRM, which results from the use of Gamification campaigns, can generate a sustainable competitive advantage for retailers.

This dissertation structure is as following. Firstly, a review of the current CRM literature is undertaken, through an analysis of the main CRM components and features in the Retailing Industry. This is then followed by a study of Gamification mechanisms and dynamics currently being used in the Retailing industry, as well as some relevant success cases in this sector.

Secondly, the methodology used and the collection of primary data is further analyzed. Afterwards, a conclusion chapter is presented, containing the answers of the two research questions mentioned above.

Finally, a Future Research on the topic is suggested.

2 LITERATURE REVIEW

This chapter provides an overview of the main subjects that are necessary to answer our research questions. The Literature Review consists of three main sections: Customer Relationship Management , Gamification and Resource-Based View Theory.

2.1 Customer Relationship Management (CRM)

CRM goal is to enhance processes across the areas of marketing, sales and services. According to Anderson et al, 2007 retailers now consider CRM to be crucial in order to attain a competitive advantage in the market.

In this section of the dissertation an analysis of CRM functionalities is undertaken and afterwards we focus this topic on its direct impact in the Retailing Industry.

2.1.1 CRM Definition

CRM can be defined as the “practice of analyzing and utilizing marketing databases and leveraging communication technologies to determine corporate practices and methods that will maximize the lifetime value of each individual customer” (Kumar et al, 2005, cited in Verhoef et al, 2010). The main goal of CRM is thus to make a distinction between the non-profitable customers and the profitable ones and understand the profitability associated with each type. (Dargah et al, 2012).

CRM can be seen as a tool that looks at extensive databases, sales force, marketing efforts in order to improve targeting to drive value for the company (Chen et al, 2003). Segmenting customers is essential to comprehend the lifetime value of a certain type of customer and thus decide on the most appropriate strategy (Bacuvier et al, 2001 cited in Dorgah et al, 2012).

Aiming at having a deeper understanding on customer behaviour, a CRM strategy requires a cross integration of processes, people, operations, marketing through information and technology (Payne et al, 2005).

According to the existing literature there are three main layers that one has to consider when implementing a CRM strategy: people, processes and technology.

- Finnegan et al, 2010 defined the three layers as such: **People**

When implementing a CRM strategy, there are several people that are involved, from a variety of departments: sales, marketing, IT, managers, etc that work together in order to ensure the success of such strategy. This very diversity, however, brings up issues concerning coordination and accountability. Most of CRM strategies involve into some extent some organizational change and it is imperative that people receive the right training and motivational tools.

- **Processes**

Most managers agree that it is more costly to acquire new customers than retaining existing ones (Xu et al, 2005). Finnegan suggests that the entire business processes should suffer a shift from centring on the product to centre on the customer instead. Processes should be aligned with the CRM strategy and sometimes these processes need to be redesign from a macro level in order to incorporate the contact, feedback and interaction with customers from end-to-end.

- **Technology**

Technology plays an important role in CRM strategies since the new IT innovations have been greatly enhancing managers' capability to collect and analyse big amounts of data. Some technologies like data mining, data warehousing and unified management software constitute an important tool for companies to gain competitive advantage (Rygielsky et al, 2002). Data mining allows enterprises to better segment the most valuable customers and to predict future patterns in their behaviour. Finnegan suggests that by understanding current and future behaviour, it is possible to to create predictive and tailored campaigns and to deliver more value to the customer.

- **Integration between People, Processes and Technology**

Even though the number of IT solutions has highly increased over the past decade, implementing a successful CRM strategy cannot be reduced to technology (Torggler, 2008). The author defends that even though CRM systems play a crucial

role, more comprehensive strategies require several tasks oriented to increase the customer value: tailored responses, customized service, smooth processes and qualified work force. CRM technological infrastructure per se can be an important tool to lead with large amount of information but doesn't lead to improvements in customer relations. Finnegan admits that there are vital links between the three layers and their in-capabilities.

2.1.2 CRM Processes and Functionalities

In order to be able to access the impact of the use of Gamification in CRM, the different processes and functionalities of CRM are going to be described. Taking into account the components of a CRM system, it is possible to draw the several functions and as such provide a cataloging and classification of processes and functionalities.

A CRM strategy is designed to mainly support three main functional areas: marketing, sales and service, as suggested by Torggler, 2008.

The author suggests the following categorization:

| collaborative CRM | <i>Contact Management</i> | | <i>eCRM/Internet</i> | | <i>Customer Interaction Center</i> | |
|--------------------------|-----------------------------|----------------------|-------------------------|-----------------------|------------------------------------|----------------------|
| operational CRM | <i>Marketing Automation</i> | Campaign Development | <i>Sales Automation</i> | Order Management | <i>Service Automation</i> | Helpdesk |
| | | Campaign Execution | | Sales Force Support | | Complaint Management |
| | | Campaign Controlling | | Product Configuration | | Service Requests |
| analytical CRM | <i>Marketing Analysis</i> | | <i>Sales Analysis</i> | | <i>Service Analysis</i> | |

Figure 1 – Classification of CRM Functionality
Source: Torggler, 2008

Starting with the first classification category, we can define the three CRM functions as such:

- **Collaborative CRM** – It refers to the entire management and unification of all means of communication between the organization and its customers.
- **Operational CRM** – This component relates with the purpose, design and execution of CRM activities and supports the main functional areas: marketing, sales and service.
- **Analytical CRM**- This category establishes a bridge between front and back office activities through an optimization of the analysis and utilization of customer data collected in Marketing, Sales and Service.

| Collaborative CRM | Process | | |
|-------------------|---|---|---|
| | Contact Management | eCRM/Internet | Customer Interaction Center |
| | Management and maintenance of contacts. | Integration of online customer data directly into central databases. Virtual shop assistants fall in this category. | Multimedia communication that concentrates all means of communication. Unified solutions for Contact Centers fall in this category. |

TABLE 1- COLLABORATIVE CRM
Source: Torggler, 2008- The Functionality and Usage of CRM Systems

| Operational CRM | Process | | |
|-----------------|--|--|--|
| | Marketing Automation | Sales Automation | Service Automation |
| | <ul style="list-style-type: none"> • <u>Campaign Planning</u>- supports the organization of marketing activities; • <u>Campaign Execution</u>- management of marketing activities through personalization of content; • <u>Campaign Control</u>- monitor and analysis of business metrics to measure the success of a certain marketing activity. | <ul style="list-style-type: none"> • <u>Order Management</u>- provides assistant to customers' requests, including management and tracking of the orders; • <u>Sales Force Support</u>- CRM affects directly sales effort through the exploitation of real-time data; • <u>Product Configuration</u>- the use of CRM to match individual customer's needs to a certain product and service – suggested products and alternatives. | <ul style="list-style-type: none"> • <u>Helpdesk</u>- First line of contact with customer. CRM solutions can enhance how staff leads with requests and problems; • <u>Complaint Management</u>- CRM provides assistance in the complaint process through an organization and grouping of historical complaints, as well as enhance means for automatic response; • <u>Service Requests</u>- CRM systems improve service processes by including relevant data on historical requests that improve staff service. |

TABLE 2- OPERATIONAL CRM
Source: Torggler, 2008- The Functionality and Usage of CRM Systems

| Analytical CRM | Process | | |
|----------------|--|---|---|
| | Marketing Analysis | Sales Analysis | Service Analysis |
| | Technology plays an important role in collecting and analyzing primary data from marketing campaigns, by providing relevant metrics on profitability and satisfaction. | CRM systems greatly improve reporting tools and provide relevant KPIs for sales optimization for future planning. | A cross-function analysis and monitoring of different services can help to accelerate processes and increase service quality. |

TABLE 3- ANALYTICAL CRM
Source: Torggler, 2008- The Functionality and Usage of CRM Systems

2.1.3 Social CRM

Most Gamification applications, such as Nike+, have a deep link with Social Networks. In this context, it is relevant to provide an overview of Social CRM, in order to further access the impact of Gamification in CRM of the retail market, taking into account its social reach.

The retail market is, into a certain extent, a market that is poor in data (Woodcock et al, 2011). Nowadays, retailers and brands recognize that the rise of Social Networks allows them to survive in a fierce environment and even to create competitive advantages (Constatinides et al, 2008). Social Network Sites (SNSs) can be defined as web-based services that enable individuals to build a public profile in a system and to create and establish connections with other individuals within the same system (Boyd et al, 2008).

Forrester Research Inc, in 2010 considers the business potential of a new trend called Social CRM or SCRm. According to the company, Social CRM refers to the inclusion of community-based interactions in the organization CRM strategy. Atos Consulting acknowledges that SCRm is changing the entire perspective of brand involvement.

SCRm activities are not new CRM processes but rather activities that enable a new interaction with the consumer through Social Media. They are a combination of Traditional CRM processes and new functionalities brought by Social Media. (Olaf Reinhold, 2012). The main focus of SCRm new capabilities are related to increase interactivity and level of customer empowerment (Almunawar et al, 2010). Social CRM is about generating content in Social Media Platforms that are relevant, have the ability to engage customers, and actively promotes listening and quick responding (Faase et al, 2011).

According to a research in 2011 by Gartner Inc, the company acknowledges that organizations should be more focused on how the end-user can benefit from the relationship with the organization, rather than how can organizations take advantage from the organization.

Atos Consulting suggests the following SCRM Framework:

| Functional Areas | Main Goal | Activities |
|-------------------------|---------------------------------|---|
| Communications | Increase brand reputation | <ul style="list-style-type: none"> - Real time monitoring of Social Networks - Create brand ambassadors programs |
| Marketing | Increase retention rates | <ul style="list-style-type: none"> - Encourage feedback and reward most influencers clients - Monitor consumer reactions in Social Media |
| Sales | Generate leads | <ul style="list-style-type: none"> - Use Social Graph for a better targeting and a more personalized offer - Identify leads in Social Community |
| Customer Service | Improve overall service quality | <ul style="list-style-type: none"> - Use customer knowledge and let the community help other customers |

TABLE 4- SCRM FRAMEWORK
Source: Atos Consulting

Furthermore, Gartner Inc, in its research states the benefits of SCRM applications in both organizational and individual sides.

| Enterprise Benefits | Individual Benefits |
|-------------------------------------|--|
| Increase trust | Sense of involvement |
| Obtain customer information | Provide more relevant information throughout the entire purchasing process |
| Product and service differentiation | Control over personal data that enterprises have access to |
| Increase revenues | Sense of belonging |
| Enhance customer experience | |
| Loyalty and Virality | |

TABLE 5- BENEFITS OF SCRM
Source: Gartner Inc – Magic Quadrant for Social CRM 2012

A Research by Accenture in 2010 asserts that by applying SCRM, companies can achieve a stronger position in the market and differentiate themselves from the competitors, due to lower operational costs and improved service and that can result in a competitive advantage.

2.1.4 CRM in Retailing

Over the last ten years, retailers have been turning to CRM practices to collect information on their customers in order to try to measure purchases frequency, marketing campaigns and customer behaviors (Verhoef et al, 2010).

Modern retailers are now turning to sophisticated technological tools to attract and retain shoppers (Jain et al, 2010). This new shift towards the customer has been mostly been about data collection, data warehousing and data mining in the industry (Anderson et al, 2007).

However, even though retailers start to see the strategic potential of CRM, there are many failed CRM implementations (Verhoef et al, 2010). The author provides a conceptual model on the implementation of CRM in the particular case of Retailing.

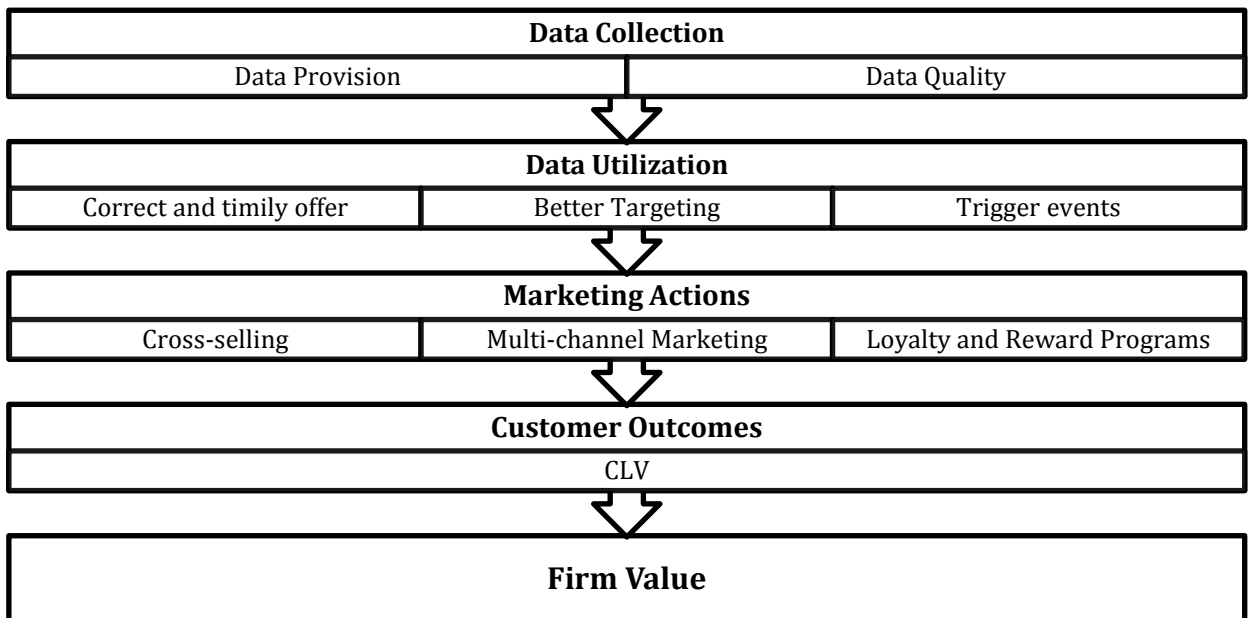


Figure 2- Detailed CRM Implementation in Retail
 Source: Verhoef et al, 2007 – CRM in Data-Rich Multichannel Retailing Environment

- Data Collection – The first stage of the model is trying to gather the existing huge amount of information in this environment, from both perspectives: individual and store level. POS (Point-of-Sale) may provide thousands of

important KPUs for the retailer. POS data can provide historical data on purchases frequency and types of products bought together, etc. Customers are also providing more relevant personal data for retailers by engaging in Loyalty Programs.

- Data Utilization- The next step in this conceptual model is to ensure data quality and integration that would allow a good customer profiling and predict future behavior.
- Marketing Actions- After the analysis of data, firms now have access to new prospect clients and are able to identify the channels and incentive mechanisms that work better in order to attract and retain customers. The information previously collected and analyzed if correctly used has a big cross-selling potential. In multi-channel retailers, CRM improves the communication across several channels by enhancing operations and information provided.
- Customer Outcomes – Customer lifetime value is a key metric when measuring CRM effectiveness. A good CRM implementation may lead to an increase of satisfaction, cross and up buying and result in an increase of customer profitability.
- Firm Value – Since Firm Value can be extrapolated from the future value of an organization existing and future customers, according to the author customer metrics are a good representation of a firm value.

2.1.5 CRM Best-Practices and Pitfalls

CRM has been helping the retail industry in terms of profit maximization (Hassan et al, 2013).

However, even though companies are increasing the budget for CRM, there are still many initiatives that fail miserably (Chen et al, 2003 cited in Keramati et al, 2010 Keramati suggests possible reasons why albeit companies are increasing the budget for CRM, there are still many initiatives that don't succeed. The author points out two main problems. On one hand, many organizations look at CRM as a mere IT implementation not well articulated with a company's strategy. On the other hand, CRM has a multidimensional nature and, as such, requires a link

between several operations and functions in the organization and when this unification fails, so fails the link between CRM and business performance.

A study by Verhoef and Langerak, 2002 focus on the main misconceptions of the implementation of CRM. According to the authors, the main miscomprehension of CRM is related to poor linking between IT, analytics and Marketing. Additionally, the authors also stress out that following the rule of "retaining is more profitable than gaining" is not always good for business, since it may result in a lack of competitive advantage that arises from a smaller customer base. Moreover, managers tend to blindly believe that loyal customers are satisfied customers in a specific point of time, which makes them forgetting about important switching costs and about fulfilling untapped needs in the market.

In another study, Rigby et al (2002) identify the main threats to a CRM strategy and suggest for main steps in order to avoid the perils. According to the authors, it is of the utmost importance to create a customer strategy before implementing major changes in the organization, especially because integrating IT solutions without a clear segmentation and knowledge of the market would not meet the business goals since there is no previous plan to start with. Considering that CRM would only have an impact in customer relationship is a huge pitfall, since the major changes occur on organization systems, infrastructures and processes. According to the authors, the most successfully companies that follow a strong CRM strategy suffered huge modifications before even embarking on such strategy.

Rigby and Ledingham (2004) suggest that managers in organizations should priority consider some critical aspects when implementing CRM strategy. A first consideration is whether CRM fits or not the overall strategy. Before making huge investments and restructuration it is imperative to assess what are the key processes to target and if they are a source of competitive advantage for the company or not. Secondly, managers should only opt for automation in the pain, since an aggressive approach may lead to unnecessary business transformations and unused technology capabilities.

Managers should implement CRM systems only in areas where it has a huge impact in the most valuable customers and when solving that pain may result in a competitive advantage. Finally, managers should consider whether they really need perfect and real-time data. Depending on the markets, managers may not need 100% accurate data or know how to strategically use it in the real-time. Leading with imperfect data may, into some extent, provide the needed information for marketing efforts (Rigby and Ledingham, 2004).

2.1.6 Loyalty and Reward Programs

Nowadays, millions of customers engage in loyalty programs and use some sort of reward or loyalty card (Smith and Sparks, 2009). Gandomi et al (2013) define loyalty programs as “structured marketing efforts that aim to enhance customer’s loyalty by rewarding their repeat purchase behavior.

Loyalty schemes like loyalty cards allow organizations to obtain information and data from customers and then develop better and sustained relationships with them (Demoulin et al, 2008). The increase importance of loyalty for organizations has led to a massive introduction of reward schemes in the last years (Gomez et al, 2012).

The CRM literature in this State of the Art indicates that the final goal of the implementation of a CRM strategy in retail is to increase Customer Lifetime Value and, consequently Firm Value. The CLV depends then on the number of repeat purchases (Reichheld, 2006 cited in Tsao et al, 2009) and, as such, loyalty and reward schemes may have an impact in CLV.

There are two sides on whether firms in the retail market should or not implement a loyalty or reward scheme. On one hand, they can be a source to boost sales but, on the other side, they are expensive and complex programs to implement (Taylor et al, 2004).

In this State of the Art and in order to assess the potential of Gamification as an important loyalty scheme it is relevant to study what are the major drivers that lead customers to engage in such schemes and what are the main benefits to use them.

Recent researches by Gomez et al, 2012 and Demoulin et al, 2009 have identified the main drivers for customers to participate in retailers' loyalty programs. According to the authors, those can be grouped in: store perception, loyalty card perception, purchase behavior and customer characteristics.

According to the authors, the main drivers can be classified as such:

| Drivers | |
|--------------------------------|---|
| Store Perception | Overall store satisfaction |
| Loyalty Card Perception | Perceived advantage Perceived complexity - |
| Purchase Behaviour | Shopping Frequency |
| Personality Traits | Privacy issues Number of loyalty cards owned Store distance Age and household size |

TABLE 6– DRIVERS OF LOYALTY SCHEMES ADOPTION
Source: Gomez et al, 2012. Demoulin et al, 2009

Both studies focused on two main relevant aspects that retailers should consider when adopting a loyalty scheme: likelihood and time of adoption. The drivers above mentioned may play an inhibiting or a facilitating role. For instance, both authors agree that perceived advantage and complexity of the loyalty card affects positively and negatively, respectively, the adoption of a loyalty scheme. The previous behavior towards the store is a facilitating driver, while on the other hand, the greater the distance to a certain store, less likely is a customer to adopt this retailing strategy.

However, interesting findings related to risk averseness of customers. Indeed, both studies shows that privacy concerns do not affect the likelihood of joining a loyalty scheme but might, however, slow down the time of adoption.

The main benefits for retailers and brands of adopting such schemes are also relevant. By improving customer retention, it is possible to increase customer and

firm value (Gupta 2004, cited in Demoulin 2009). Another benefit arises from increasing the switching costs. The customer is less likely to move to another retailer since it is already accumulating points to earn a certain reward (Taylor and Neslin, 2005). According to the same authors a reward mechanism can create a positive feeling towards a certain retailer and as such, increase the overall satisfaction and buying intentions.

Despite the benefits mentioned, Demoulin et al, 2009 cited that due to the high number of loyalty cards in circulation, it will be impossible for customers to carry them all. The author goes even further and states that this might mean the end of loyalty cards in the long-term.

2.1.7 Permission Marketing

Companies are already realizing the potential and the importance of mobile advertising (Jayawardhena et al, 2009). The increase mobile penetration has led to an explosion of the number of advertisements for products and services, directly in mobile devices (Tsang et al, 2004).

Permission-based advertising implies that individuals must have demonstrated the willingness to receive certain content and messages from products. (Tsang et al, 2004).

The main theoretical benefit of Permission Marketing is that if customers are willing to provide data, it is more likely for firms to show more contextual, targeted and relevant information to the customer via mobile than by any other mean (Jayawardhena et al, 2009).

Giving permission to receive information is crucial, since non-authorized ads that are pushed to the customer may lead to irritation and not produce the desired results (Barnes and al, 2003 cited by Bamba et al, 2006). Higher levels of acceptance towards receiving mobile advertising increase the overall satisfaction and avoid damaging brand perception (Barwise et al, 2002).

Moreover, permission marketing has a higher rate of effectiveness, since both consumers and marketers may create an active and interactive relationship between them, and as levels of trust increases firms profits (Marinova et al, 2002).

A study by Varnali et al (2012) shows that there are differences among individual responses towards ads that they had previously authorization to receive and those who had not. According to the authors, individuals that give explicit permission perceive the message less intrusive, have more positive attitude towards a marketing campaign and are more responsive towards that same campaign.

2.2 Gamification

In this section of the state of the art we focus on the main existing research on the topic. In this section, we provide a definition of Gamification and explain the main mechanics and dynamics associated with such a strategy. Afterwards, we study implementations by multinational retailers such as Samsung and, finally, we present the main challenges companies may face when implementing a Gamification strategy.

2.2.1 Gamification Definition

Over the last years, people have been trying to find how it is possible to apply the interactive, addictive and engaging features of video games into another extension of applications (Fitz-Walter and Tjondronegoro, 2011). Even though companies have been spending a large amount of money in IT systems to improve business processes performance, there are still lacking some mechanics to motivate people to be at their higher levels (Cognizant).

With this in mind, the term Gamification has been gaining a lot of attention in the last years and has been subject to an intensive debate (Deterding et al, 2011). Deterding et al, 2011 describe Gamification as *“the use of game-design elements in non-game contexts”*.

According to a M2 Research Study in 2012, the principle that lies behind the fact of Gamification being so attractive is that people usually enjoy participating and engaging in the presence of some entertainment source. With this said, the basic reasoning of using Gamification is to increase user activity and customer retention rates, by including fun and progression elements that we may find in real video-games (Sridharan et al, 2012).

2.2.2 Gamification Dynamics and Mechanics

In order to deepen our understanding on the topic, it is relevant to understand the dynamics and mechanics of a Gamification strategy.

- MDA Framework

The MDA Framework is one of the most well-known frameworks in Game Design (Zickermann, 2011). It is a formal approach to a game system by decomposing in its basic components (Hunicke et al, 2004). MDA stands for: mechanics, dynamics and aesthetics.

Mechanics relate to the particular components of a game (Hunicke et al, 2004) and includes the functioning part of any game (Zickermann, 2011). Meanwhile, game *dynamics* refer to the behavior of a player towards the game mechanics (Hunicke et al, 2004). Finally, *aesthetics* describes the emotional responses evoked during the interaction with a certain game (Hunicke et al, 2004).

Game mechanics and game dynamics (adapted from Bunchball (2010)).

| Game elements | |
|--------------------------------|-----------------|
| Game mechanics | Game dynamics |
| Points | Reward |
| Levels | Status |
| Trophies, badges, achievements | Achievement |
| Virtual goods | Self expression |
| Leaderboards | Competition |
| Virtual gifts | Altruism |

TABLE 7– GAME MECHANICS AND DYNAMICS
Source: J.Simoes et al, 2013

It is then possible to establish a link between the game mechanics and dynamics previously mentioned. The figure below aims to identify the interactions that occur between these two game elements.

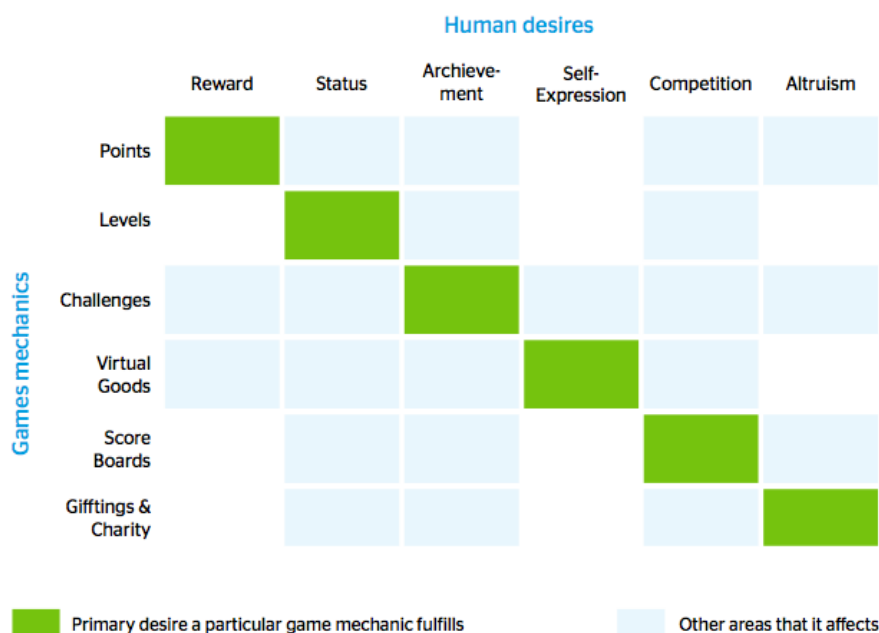


Figure 3– Game mechanics and dynamics- interaction (adapted from Bunchball (2010))²²
Source: BBVA Innovation Edge

However, not everyone has the same behavior towards gaming mechanisms. Richard Bartle, 1995 identifies four types of players and describes the main motivations that drive them to engage in games. Richard Bartle research summarizes the main drivers for players to actively participate in MUDs (Multi-User Dungeon).

- Game achievements- players value the accumulation of game rewards and are intensively trying to get as many extras as possible;
- Game exploration- players try to find out and explore as much as possible in game map.
- Socializing with others- players enjoy the gaming communication tools and value the communication with other players.
- Imposition upon others- players are seduced by the opportunity of doing damage and cause any type of harm on other players.

The author labeled these four types of players in: Achievers, Explorers, Socializers and Killers. This categorization of players is extremely important within the Gamification literature since game designers need to keep a balance between the different types of players in the application (Bartle, 1995).

If we consider the Bartle Framework and the current literature on Gamification, it is possible to draw a scheme on what attracts the different types of players:

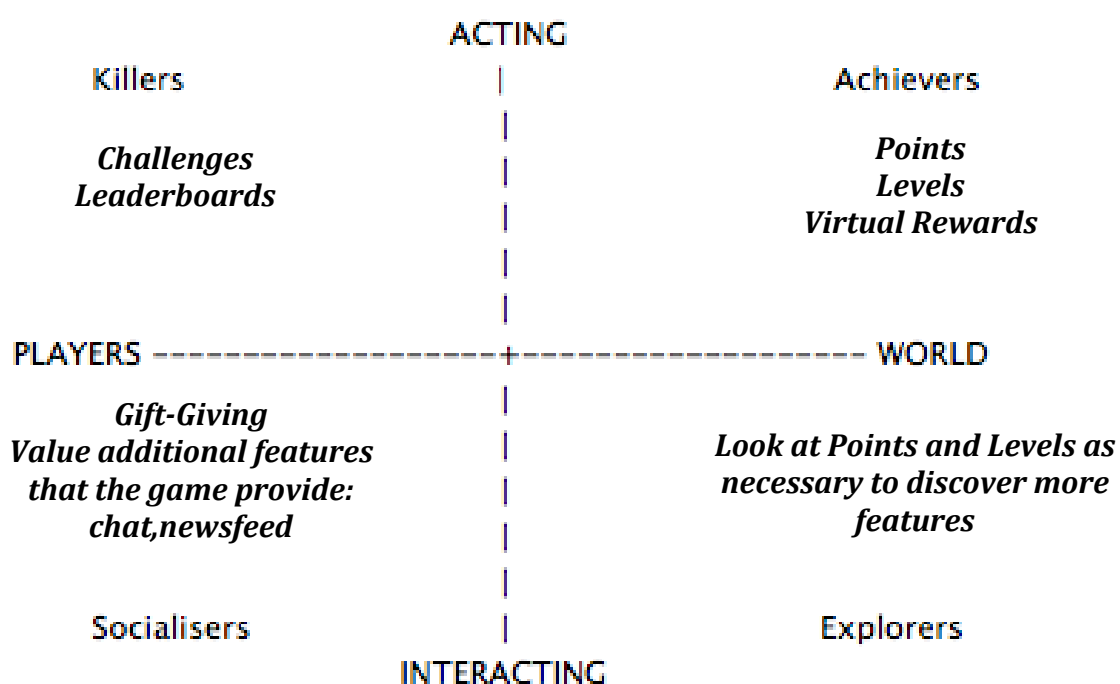


Figure 4 – Bartle Model
Source: Bartle, 1995



Figure 5– Gamification Mechanics
Source: Deterding cited in Xu, 2012

2.2.3 Gamification Uses

| Gamification Uses | |
|---|--|
| <i>Drive customer loyalty and engagement</i> | Recent websites and smartphone applications through game mechanics try to give incentives for consumers to increase virtual participation – ‘share’, ‘like’, see videos, rate products, participate in forums and blogs, etc. Brands and retailers attribute points, badges, etc to reward the desired behavior. |
| <i>Improve employee motivation, performance and collaboration</i> | Sophisticated game design systems can be employed to increase performance and collaboration between coworkers since it is possible to reward not only top performers but also the entire organization. It is possible to reward effort and creativity at any echelon. |
| <i>Enhance learning and education</i> | Certain game mechanics: points, badges, etc may be applied as a fun element to course material in order to increase feedback and provide status and recognition to a person engaged in learning. Corporate eLearning and eTraining are can also be gamified. |
| <i>Boost corporate innovation</i> | Incentivize employees and consumers (crowdsourcing initiatives) to drive and accelerate product innovation. Gartner Inc in 2011 predicted that in 2015 more than 50% of companies will gamify innovation processes. |

Table 8 – Gamification Uses
Source: Gartner Inc, M2 Research

2.2.4 Gamification Market Potential

Gartner Inc has included Gamification in the “Hype Cycle for Emerging Technologies of 2012”, with the expectation of it achieving the Plateau of Productivity in 5-10 years.

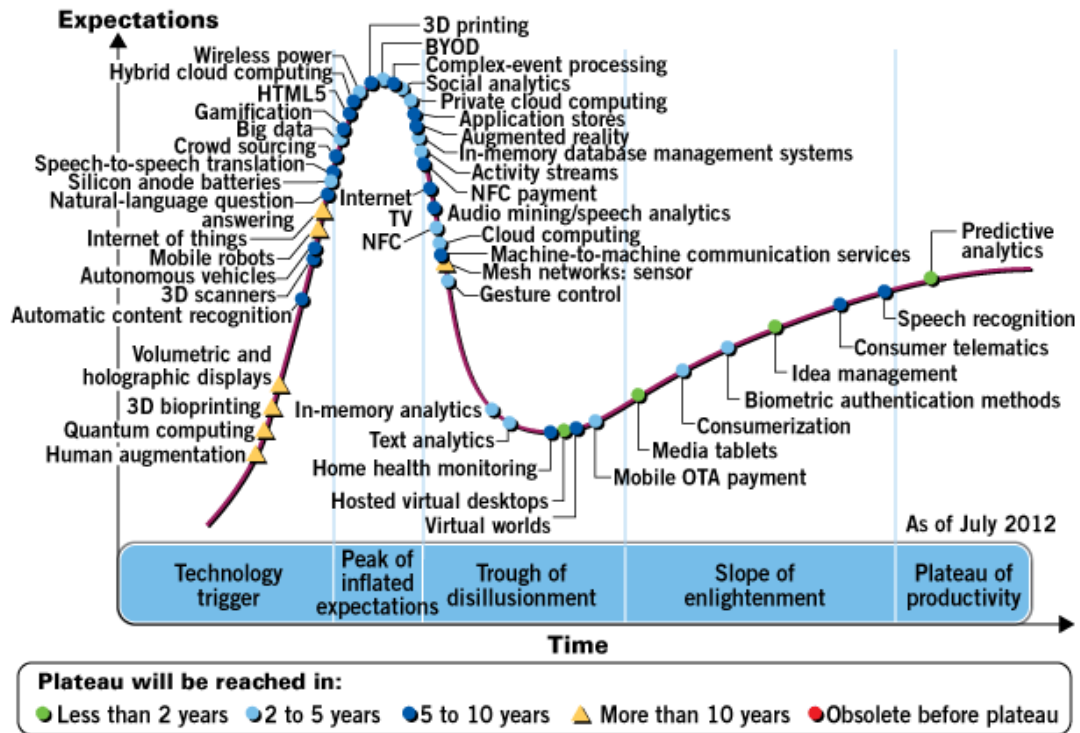


Figure 6 – Hype Cycle for Emerging Technologies
Source: Gartner Inc

This Hype Cycle represents the speed of adoption of technologies and their potential for disruptiveness. The picture above locates Gamification in the “peak of inflated expectations” phase, meaning that starts to appear early publicity about a number of success stories. (Gartner Inc).

Gartner, Inc. considers that by 2016, Gamification will be a key marketing for brands and retailers element to drive customer loyalty.

A study by M2 Research in 2011 estimates that the amount of money spent in gamification solutions will reach \$2.8Bi in 2016 (vs. \$250Mi in 2012). If we breakdown the gamification market, 62% of all initiatives are consumer-driven, aiming at increasing loyalty and retention, while 48% are enterprise-driven (Source: M2 Research).

2.2.5 Gamification applications in several industries

Since the focus of this dissertation is on the impact of Gamification in the retail industry, this topic aims to simply provide some examples of application in other industries, rather than provide an extensive approach.

Gamification has been applied across several markets. The primary markets of Gamification include: Entertainment, Media, Retailing, Publishing, Education and Health (Source: M2 Research, 2011).

According to M2 Research 2011 Report, the distribution by market segment puts entertainment (18%) and media (17%) segments as the largest shares for Gamification applications.

Bunchball and Badgeville already present some case-studies of Gamification implementation, both customer and enterprise centered.

Some examples can range from the implementation of Gamification strategies in Call Centers – LiveOps- which applied game mechanics to motivate, increase performance and decrease time of training of agents. According to the company, since the implementation of a gamification system, some agents call time decreased 15% and, in certain cases, there was a 8-12% boost in sales.

Another good example can be found in Energy Consumption, OPower tries to incentive users to decrease energy consumption by using Gamification to teach and to create a friendly competition among users.

Yesterday's top call and conversion leaders

| Top # of Calls | | Top Conversion Rate | |
|------------------|-------|---------------------|------|
| Name (ID) | Calls | Name (ID) | Rate |
| Nancy (27592) | 130 | Gail (34543) | 52 |
| Evelyn (27045) | 78 | Faith (46056) | 42 |
| Michelle (38828) | 78 | Linda (34077) | 41 |
| Joanna (2369) | 75 | Aprile (25670) | 40 |
| gloria (35439) | 72 | Loria (45628) | 40 |
| Theresa (29666) | 68 | Joanna (2369) | 38 |
| Faith (46056) | 63 | Esther (2029) | 37 |
| Pamela L. (6311) | 60 | Randy (1632) | 36 |

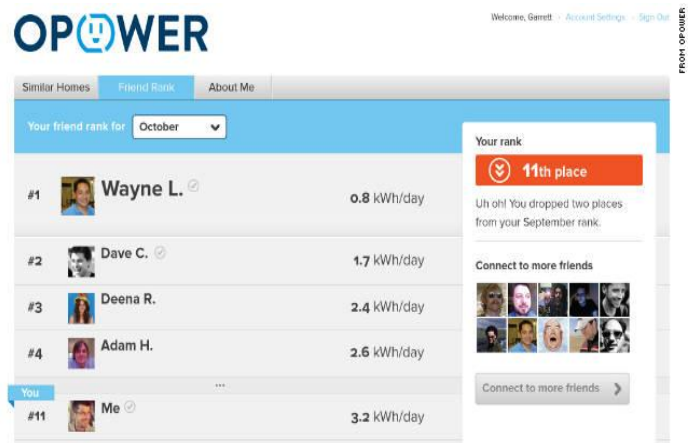


Figure 7: Industry Gamification Application: LiveOps
 Figure 8- Industry Gamification Application: Opower

2.2.6 Current uses by brands and retailers – success case-studies

According to Retail Touch Points, online publishing network for the retail industry, Gamification has been gaining a rapid momentum in the retail market.

One of the most famous cases of the application of Gamification by brands and retailers is Nike+ (Xu et al, 2012).

- **Nike +**

Nike+ is a social running application that uses Gamification to give motivation to casual runners and encourages them to share their results and compete for fitness (Xu et al, 2012). According to a 2013 Report from Accenture, Nike+ helped increasing by 30% company's Running category revenues in 2011. Nike+ also helped NIKE, Inc to gain a market share of almost 10% in less than a year (Rao, 2012).

The company wanted to gain access to relevant data and information about customers' preferences, habits and workout patterns in order to communicate more efficiently (Rao, 2012). Nike's main objective with such an application was to increase loyalty and engagement and to boost sporting equipment sales (Zickermann, 2011). However, what distinguishes Nike's Gamification platform from others is that it was carefully planned, focusing on user needs – lack of motivation to start training. Zickermann defends that the success that lies behind Nike+ is that they first discover a way to make the entire running enjoyable instead of just giving out badges and points to people. Nike continues to fine-tuning and to improve its app regularly, which is according to the author a key success factor for any gamified app.



Figure 9 – Nike+ App Overview

Nike+ has several features that makes “running more fun” (Xu et al, 2012) – leaderboards to stimulate improvement and evolution, challenges to push the user to improve his own marks, social layers to share his achievements with his Facebook community and the possibility to explore new games as he uses the application more often.

In the light of Bartle Model (1995), it is clear that Nike+ tries to gather the four type of players (socializers, achievers, explorers and killers) due to the several gamification tools and links to social networks that it has and, as such, it was able an equilibrium in its platform.

- **Samsung Nation**

Samsung launched in 2011 Samsung Nation, with a different approach than Nike+. According to Esteban Contreras, Social Media Manager for Samsung USA, the main goal is to reward customers that interact with Samsung.com and to drive virtual participation.

Samsung Nation focus on providing a more engagement experience when consumers are in Samsung’s website and gives incentive for users to generate content, share products in their social networks, participate in Q&A forms, rate products, etc.

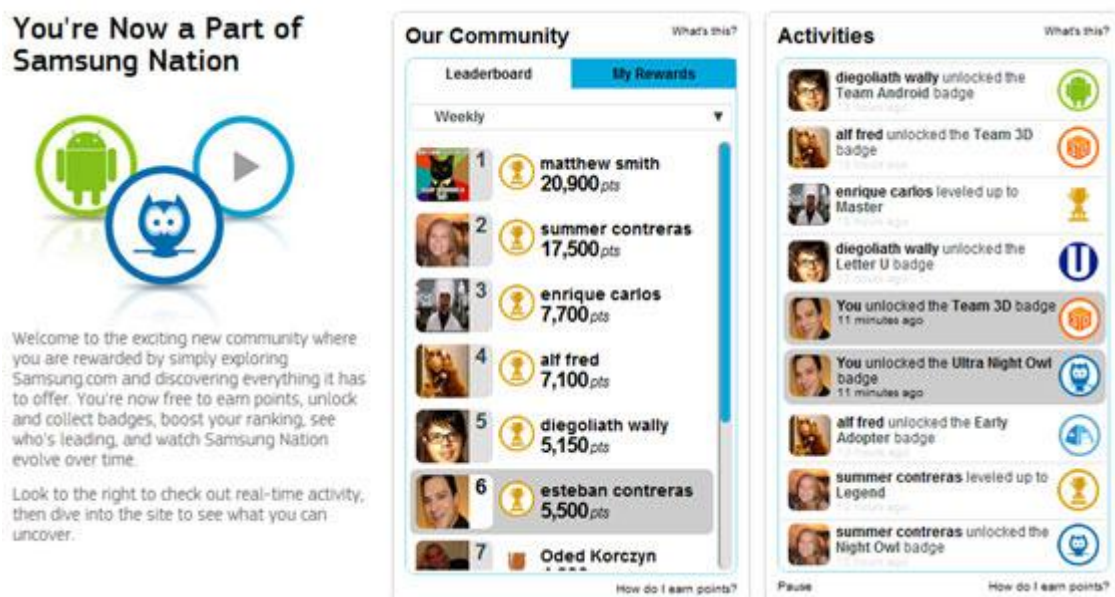


Figure 10– Samsung Nation

2.2.7 Measuring Gamification Impact

In order to understand how Gamification can have an impact on Retailers CRM it is fundamental to understand how we can measure the success of the implementation of such strategies by recurring to analytical mechanisms.

M2 Research in 2011, establishes the main metrics to measure the impact of a Gamification campaign as such:

- Engagement metrics: number of page views per visitor, number of unique visitors, time spent on site, total time spent per user.
- Loyalty measures: frequency of visits.
- Virality measures: number of 'shares' 'likes', participation in activity feeds and overall communication across social media.
- Monetization: number of conversions, number of registrations.

Xu, 2012, on the other hand, tries to link Gamification metrics to Social Games and presents the following analytics:

- ARPU – Average Revenue per User: includes subscription fees, virtual goods, affiliate marketing and ad revenues;
- Churn Rate- turnover rate of active players;
- DAU – Daily Active Users;
- MAU – Monthly Active Users;
- Retention – opposition to Churn Rate;
- Infection Rate – exposure to other people, measured in number of invitations and shares;
- Conversion Rate – number of conversions by 'infections';
- K Factor - Infection Rate × Conversion Rate.

Analytics is a key element in any loyalty or reward scheme. When using Gamification for such end, these analytics are the way you measure the effectiveness of you program and assess if they are returning any value (Zickermann, 2011).

2.2.8 Best-Practices and Main Challenges

Despite the entire buzz that the term Gamification has been gaining in the Media, there are also several criticisms to this trend (Nickolson, 2012).

According to Gartner Inc, brands and retailers must carefully monitor the emerging of Gamification and try to apply game mechanics, with sophisticated designs, in their loyalty and reward programs. The use of Gamification in the retailing industry can be extended to product launches also with success. According to a Gartner Inc study, by integrating Gamification and Social Media, retailers and brands can get insights on the new product mass appeal, get feedback, optimize pricing strategies and save on expensive product trials, and stocks purchase.

However, there is a dual side in this new trend. Gartner Inc also affirms that by 2014, 80% of current gamified applications will not meet the business goals due to poor design. According to the company the game design is one of the most important features of any Gamification application and that's why most of recent applications fail. Zickermann, 2011 also defends this notion.

Moreover, Nickolson states that Gamification as we know it nowadays, is only taking advantage from the least interesting part of a real game – points, and as such would difficultly become an engaging experience per se. This very same point has been emphasized by Gartner Inc that states that many organizations are only focusing on attributing meaningless badges and points and forgetting about the most meaningful game characteristics- competition and collaboration.

Another concern that is brought in Nickolson paper is that Gamification may have a long-term negative impact. Once organizations start giving rewards to users they can never break that loop, otherwise users will have a negative behavior towards the organization priory to the application of the gamification system. This idea is also defended into some extent by Zickermann.

- Meaningful Gamification

Meaningful Gamification is the integration of user-centered game design elements into non-game contexts. (Nickolson, 2012). Nickolson emphasizes the need to design a Gamification strategy which underlying activity is focused on increasing the value for the end user. The opposite of a Meaningful Gamification is Meaningless Gamification, according to the author, which is organizational-centered. Nickolson defends that must tactics that are only based on points and levels are only focused on increasing the enterprise value in the short-term in order to drive some momentum behavior.

The true value for any organization when implementing a Gamification strategy will be the direct result of the benefits that are generated to the user and the positive and meaningful attitude towards the organization that is created outside of the smartphone application or website. (Nickolson, 2012).

2.3 Resource Base View Theory

This section of the State of the Art aims to give an outline of the current literature on RBV (Resource-Based View) Literature. First of all, an overview of the framework is presented, followed by an analysis of the VRIN Model and its components. Finally, the CRM theory will be analyzed under the CRM Framework as well as its links with the possibility of achieving a SCA – sustainable competitive advantage.

2.3.1 RBV Framework

RBV Model has been gaining a lot of attention by several scholars (Kraaijenbrink J. et al, 2009), trying to assess what are the sources of a sustained competitive advantage. (Fahy and Smithee, 1999).

Before the rise of the RBV framework, the dominant strategy framework that aimed to explain how firms could attain a competitive advantage was Porter's Five Forces Model (Teece et al, 1997). The main premise of Porter's Model is that the profitability of an industry is related to five difference forces: entry barriers, bargaining power of customers, bargaining power of suppliers, threat of substitutes and rivalry intensity. It directly links profitability and external environment (Teece et al, 1997).

The RBV Model provides a different approach. RBV suggests that firms obtain a sustained competitive advantage by exploring internal strengths and applying it to strategy, in order to take advantage from external opportunities (Barney, 1991). The RBV Theory thus aims to explain that the differences in competitive advantage of different competitors are the result of heterogeneity, i.e, different resources and capabilities of each firm (Helfat and Peteraf, 2003). According to Teece et al, 1997, the champions of the marketplace would be the firms that can quickly respond and adapt their resources and capabilities to the business environment.

In order to deepen our knowledge of the RBV framework it is important to understand the concepts of resources and dynamic capabilities. Under the RBV model, resources refer to tangible or intangible assets that are semi linked to the firm (Wernerfelt, 1984). Dynamic Capabilities, on the other hand, refer to the

firm's ability to integrate and redeploy internal and external competences to respond to environmental shocks. (Teece et al, 1997).

As mentioned, the main goal of RBV is to explain how firms can achieve a SCA-sustainable competitive advantage. A sustainable competitive advantage occurs when a firm implements a value-creating strategy that is not simultaneously implemented by any competitor at the time and they are not able to replicate the benefits of the strategy (Barney, 1991).

The VRIN Analysis is used in order to explain how competitors are unable to replicate and duplicate the value of an implemented strategy, since it provides the required resources attributes that need to be present in order to create a SCA (Barney 1991).

2.3.2 VRIN Analysis

The core proposition of RBV is that firms in order to attain a sustainable competitive advantage must possess valuable, rare, imperfectly inimitable and non-substitutable resources (Kraaijenbrink et al, 2009).

- Valuable Resources

Resources are valuable when they enable a firm to implement strategies that can have an impact in terms of effectiveness and efficiency, by exploiting opportunities and offset possible threats (Barney 1991).

- Rare Resources

A firm's strategy usually involves a mix of resources: human capital, physical capital and organizational capital. This mix of resources must be rare, so that other competitors cannot replicate the same strategy. Even though the resources in question are valuable, if other firms are able to implement the same strategy, they will not be a source of competitive advantage (Barney, 1991).

- Imperfectly Imitable

Valuable and rare resources may be a source of a temporary competitive advantage. However, in order for them to create a sustained competitive advantage other competitors cannot be able to obtain them because they are imperfectly imitable. There are three conditions that need to be present in order for it to happen: unique historical conditions, causal ambiguity and social complexity. The unique historical conditions of a firm may be a differentiation factor on how firms can obtain resources. For instance, a firm that was able to change, in the past its facilities close to valuable and rare resources, may now have control over these resources and push competitors away. Causal ambiguity occurs when the link between a firm's resource and its SCA is difficult to comprehend, making duplication of the actions by competitors extremely hard. In order for casual ambiguity to be a source of SCA, all competitors must have an imperfect understanding of a firm's source of SCA. Finally, social complexity makes resource being imperfectly imitable if the resources are socially complex, which includes firm's culture, firm's reputation towards suppliers and customers. Technology, per se, is not a perfectly imitable resource. However, if linked with to other social complex resources, firms may be able to exploit the technology in ways that other competitors can't and, as such, achieve a SCA. (Barney, 1991)

- Non substitutable resources

According to Barney, the last requirement for a firm to be able to sustain a competitive advantage is that there must not be any valuable strategically substitute of the resource in the market, which can be easily obtained by any competitor. If there are strategically substitutes in the market, competitors would be able to implement the same strategy, even if with different resources.

2.3.3 Technology and CRM under the RBV Framework

The Literature Review on CRM shows that CRM and Technology are extremely interrelated. Indeed, CRM can be seen as a strategy that is customer-centered, that has its roots in the IT capability of a firm (Keramati et al, 2010).

Keramati et al, evokes that CRM when effectively employed offer strategic and benefits, such as customization and personalization that brings value. Moreover, since CRM is a multidimensional framework, it has a casual path, and might be difficult to understand all the dimensions and how they relate to each other and, as such, hard to imitate. (Roh et al, cited in Keramati et al, 2010).

By considering Gamification as a technology trend (Gartner Inc), it is possible to link it with the RBV Model. In fact, technology is relevant under the RBV Framework, since it can enhance the development of higher capabilities, which could be firm specific and hard to imitate (Wu et al, 2006). Technology per se does not constitute a source of SCA (Barney, 1991). Nevertheless, Barney also mentioned that when technology is related with other social complex results it might generate a SCA. In his study, Keramati et al show the importance of several resources: human training, motivation, top management commitment, etc, for the success of a CRM strategy and value generation. These resources are social complex and shape a firm's culture and, as such, have a direct impact in the degree of imitability of Barney's Framework;

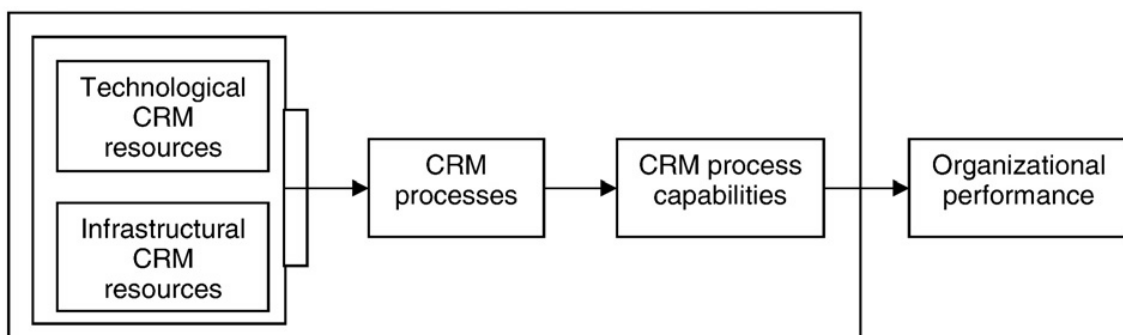


Figure 11- Linking Technology, CRM and RBV Model
Source: Keramati et al, 2010

The link between IT resources and CRM, explained in the State of the Art of this dissertation is important to understand how an enhanced CRM can generate a SCA.

Not all firms can attain a SCA through CRM. Indeed, in order for that to happen, firms must apply valuable technological resources to their capabilities, which must be not imitable and non-substitutable. (Keramati et al, 2008 cited in Keramati et al, 2010).

When assessing the impact of CRM in the multi-channel retail model, this State of the Art also makes evidence of a clear path that needs to be followed: data collection, data utilization, marketing actions, and the need to employ resources to enhance firm's capabilities. Keramati defends that the business value of a CRM strategy depends on the correct maneuvering of that same path. According to the author, technology will have an impact in improving the processes through which the firm will be able to create value for the customer and, consequently, for the entire organization.

3 GAMIFICATION IN CRM PROCESSES

This section of the Dissertation aims to explain the methodology used to describe the impact of Gamification in CRM processes of a Multi-Channel Retailing Environment.

This methodology starts with the definition of the objective of the dissertation. Secondly, a “Gamification in CRM” value-creation model is drawn. This model studies the impact of the use of Gamification mechanics in CRM processes across business functions, for brands and retailers. This model provides an overview of the main benefits that Gamification can have across the several CRM primary processes.

Taking into account the nature of Gamification and its primary design focus on Social Media and Online Platforms, we will integrate in our model the potentialities of Social CRM.

The hypotheses derive from the dimensions of the model “Gamification in CRM Processes”, based on the framework suggested by Verhoef et al (2007)... In order to confirm the hypotheses of this dissertation, we create a survey, which aims to determine if CRM mechanics have value-addition for the user. We provide the relevant survey methodology, including how the survey is structured, in which channels it was distributed and what were the main analytical and statistical tools used to analyze the data.

3.1 Objective

The main objective of this Dissertation is to answer two main Research Questions:

- 1. Are there characteristics in a Gamification strategy that create value for the end user?**
- 2. Can brands and retailers attain a sustainable competitive advantage by incorporating Gamification in their CRM practice?**

The first question aims to assert what are the game mechanics and dynamics, covered in the Literature Review that customers are interested in, want to engage with and see value in. As for the second question, it represents the core of this

dissertation and pretends to see, under the RBV Framework, if it is possible firms to achieve a SCA.

3.2 Model

This section aims to provide a conceptual framework of the main qualitative benefits and functionalities of Gamification in the CRM Processes.

The Framework suggested by Verhoef et al (2007) serves as the basis for this model. First of all, the objective of this dissertation is to assess whether an enhanced CRM that results from the inclusion a Gamification Strategy can lead to a SCA. In order to study this question, it's essential to show exactly how Gamification affects the several processes of CRM and how it can create value for the consumer.

Firstly, Verhoef's Model focuses in CRM processes in multi-channel retailing environments. This is extremely relevant for the Gamification literature, since such a strategy is designed mostly for online and mobile platforms. As explained, multi-channel retailers offer several channels for transaction: physical stores, online stores, mobile apps. Gamification can be used across several channels: physical and online and, as such, this Model is adequate to study the impact of this technology trend in CRM.

Secondly, Verhoef's Model states that an enhanced CRM can increase Customer Satisfaction and Loyalty and this very same fact will then generate value for the firm. This is consistent with the methodology of this dissertation since first objective is to study whether a Gamification strategy can create value for the end-user and, consequently, that value can be extrapolated by the firm and allow it to generate a SCA. This is the same path that Verhoef's suggests in its framework.

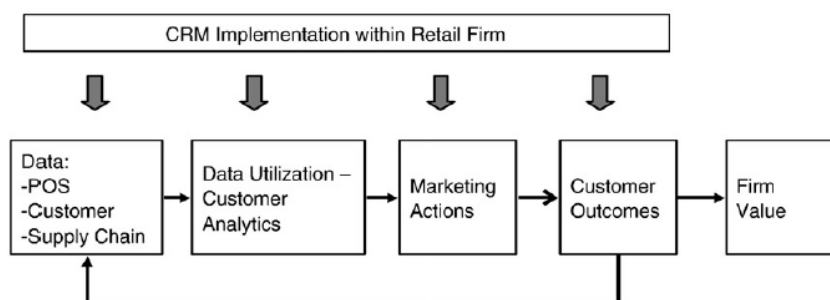


Figure 12-Verhoef's Conceptual Model

Finally, in this framework, several functionalities of SCRM are also included since Gamification is widely associated with interaction with others and Social Media.

3.2.1 “Gamification in CRM Processes” Model

3.2.1.1 Data Collection

| CRM Process | Topic | Use of Gamification |
|------------------------|-------------------------|--|
| Data Collection | Customer Data Provision | <ol style="list-style-type: none"> 1. From the platform itself <ul style="list-style-type: none"> - Behavioral Data - Product Feedback 2. From the integration with Social Networks 3. From other devices/technologies <ul style="list-style-type: none"> - QR codes - RFID tags/NFC - ACR - Wearable computing (ex- Nike+ Fuel Band) |
| | Data Quality | <p>Connect with Online/ Social Media- Permission Marketing</p> <ol style="list-style-type: none"> 1. Lower levels of False Data 2. Lower Levels of Incomplete Data 3. Constant information update |

TABLE 9- DATA COLLECTION

Source: Own Analysis

According to the Literature Review of this Dissertation, one of the major keys issues for Retailers is to be able to gather and analyze huge amounts of data about their customers. Loyalty Cards have been used to try to gather more data about purchase frequency and products bundles. As mentioned, many CRM applications fail and are not able to have positive ROI.

Gamification has a huge potential in terms of Data Collection and Data Quality.

Customer Data Provision

One of the key issues that marketers face is to be able to have up-to-data and relevant data about their customers. Designing a Gamification platform provides data to brands and retailers that can be used to enhance business functions: marketing, sales and service.

Data from the Platform itself

A Gamification system can be an app for a smartphone or a simple web application built upon a retailer's website.

Users of a Gamification system engage with the application: they comment, share and interact with other players. Retailers must be able to monitor important metrics. These metrics are present in this State of the Art and include: Daily Active Users, Monthly Active Users, Retention Rates, Infection Rates, etc. These metrics give important behavioral insights to the retailers. Firstly, the number of times a user accesses the gamified system and interacts with it may reflect the level of engagement and loyalty with a brand. Secondly, these metrics also let retailers identify what are the most loyal players and what are those that can potentially have the most viral effect over other players and non-players. This will help them to have a more personalized and deeper relationship with them to promote Evangelist Programs. Furthermore, these metrics also allow brands and retailers to constant improve the Gamification system and attract and retain more players.

Another very important insight that brands and retailers get is related to product feedback (Zickermann and Cunningham, 2011). By rewarding users to comment and actively participate in forums, brands and retailers can get direct feedback of products prior to its launch, saving relevant costs on focus groups or on pre-launches campaigns. Additionally, they also get some insights about current needs and can use that information to predict future trends (Zickerman and Linder, 2010).

Data from the Integration with Social Media

Most of brands' and retailers' Gamification systems aim to connect directly with Social Networks (Volkova, 2013). Nike+, for example, allows you to post your achievements to all your Facebook community. In order for you to be able to share it, brands and retailers ask for permission to have access user profile data, user likes, friend's likes, photos, activities, interests, check-ins, etc.

Not only can brands collect data from players but also from non-players that like your achievements on Facebook, for example, and can become future prospects for the company.

Data from other Devices/Technologies

Gamification systems may rely on other devices and technologies in order to make the experience more fun and engaging and to extract more data from customers.

Some examples of those technologies include QR Codes, NFC and Wearable Computing.

A QR - (Quick-Response) code is a matrix barcode that can be read by smartphones cameras. (Ashford, 2010). QR Codes can quickly display encoded text or stored URL links directly in your smartphone. (Walsch, 2010). It also contains much more information than a regular bar code and can be decoded at a high speed (Rouillard, 2008). There are already some examples of companies incentivizing users to scan QR codes embedded in posters, products, etc, to win rewards (ex: Sony Xperia, Coca-Cola).

NFC- Near-Field Communication (Agrawa and Bruharia, 2012) technology has also been subject to Gamification campaigns by brands and retailers (ex: WeSC). NFC is a short-range radio communication technology that allows interactions between two devices (Agrawa and Bruharia, 2012). A NFC-enabled smartphone can connect with a POS device, smart poster and other NFC-enabled devices. (Smart Card Alliance, 2010).

By using such technologies, brands and retailers can collect relevant data across the entire purchase decision-making. If a person uses his smartphone scan a QR code in a bus-stop, to tap on a smart poster or to interact with a POS, companies have the ability to collect demographic data, geographical location of users and to know how and when they interact with such types of initiatives.

Another technology where Gamification can be used is ACR - Automatic Content Recognition (Gartner Inc). ACR aims to extend the TV experience to a second-screen. It allows a mobile device to become content-aware and know exactly the content that is being watched on the Television at that same moment, by means of digital fingerprinting. Digital Fingerprinting technology analyses the content that is playing on the TC and matches with a reference database and, consequently, triggers the interaction. (Civolution, 2012). Brands and retailers have the possibility to offer extended information and interactivity and users can engage with this experience in a Gamified way (ex: Tag this Ad by Pepsi). Using this

technology as a channel to implement a Gamification system provides another level of data about user's behavioral habits inside home. ACR data is a great complement of NFC and QR codes since these last two are mainly used for outside campaigns.

Finally, some well-known Gamified applications such as Nike+ have relied on Wearable Computing to gather more data from its users. Wearable computing is design to recognize and measure activity. The main reasoning of Wearable Computing is to have a device that would seem an extension of one's body that has computational capabilities (Reggen et al, 2011). Nike+ Fuel Band and Nike+ Basketball use motion-sensors to measure all users' activity. Such gamified application can generate more value for the end-user with such technologies since it captures relevant data on user's progression and immediately transmits it back on the Gamified application, setting new objectives for the user.

Customer Data Quality

According to Verhoef, one obstacle that retailers face is about ensuring the quality of the data that is provided by the customer. Most retailers do not have an extensive database and, alternatively, use Loyalty Programs to try to get some insights about their customers. Loyalty cards give important information to retailers about products that are bought and if they are usually bought in a specific bundle. However, some personal information is only filled in when applying for a Loyalty Card and some data can be missing, incorrect or users just do not want to waste time filling extensive forms. Furthermore, this information is hardly updated.

One of the most important game dynamics is the expression of status in Social Networks, where users like to share their accomplishments with their Networks. Brands and Retailers have a privileged access to user's information through SNSs since users would have an extra incentive to allow more access to their information and their friends, due to this nature of self-expression. Due to the possibility of synchronizing the gamified application with SNS, brands and retailers have access to constantly updated information, with higher quality levels. This fact is a real breakthrough when comparing with traditional Loyalty Cards.

3.2.1.2 Data Utilization

| CRM Process | Topic | Use of Gamification |
|-------------------------|--------------------------|--|
| Data Utilization | Correct and timely offer | <ol style="list-style-type: none"> Better Recommendation Engines <ul style="list-style-type: none"> – Lead Generation - Social Behavior Analytics (Social Graph) Hyper Two-Sided Feedback |
| | Better Targeting | <ol style="list-style-type: none"> Push discounts and other incentives: "Individualized Segmentation" from Gamification Analytics and player activity. |
| | Trigger Events | <ol style="list-style-type: none"> Offer real-time rewards and incentives when a trigger event occurs |

TABLE 10- DATA UTILIZATION

Source: Own Analysis

The amount of data has exploded in the last years. Big Data is probably one of the most hype terms in IT nowadays. Gartner Inc describes it as “high volume, velocity and/or variety information assets that demand cost-effective, innovative forms of information processing that enable enhanced insight, decision-making, and process automation”. Digital Data is now everywhere and business leaders need to be able to leverage huge amount of information. (McKinsey Global Institute).

Correct and Timely Offer

Better Recommendation Engines

Individuals are now establishing social relationships online, making Internet a network of people rather than a network of documents (Ugander et al, 2011).

Social Integration within gamified systems is essential to leverage social identity and social graph information. Gamification solutions in the market like Gigya offer powerful data analytics and provide powerful reports on what elements of the Gamification strategy are actually generating engagement and brand loyalty.

Social integration analytics allow brand and retailers to have a deeper understanding of the impact of the gamification strategy in users and followers.

This information is of the utmost importance since it's possible to capture every user's action in SNS and Online Sites and, as such, retailers have a better understanding of the current needs of the market and can push products and services directly to the market by means of enhanced Recommendation Engines.

Recommendation Engines, when integrated with SNS, not only have the possibility of increasing sales from current users but also to target potential users that follow the activity of current players. Brands and retailers have the opportunity of leverage the Social Graph to reach a broader population in a timely way.

Hyper Two-Sided Feedback

As explained in the State of the Art of this dissertation, some gamified applications such as Samsung Nation, are built to encourage users to participate and to generate content. The gamified application, in return, gathers this data and can provide feedback in return to the players in order to encourage certain behavior.

This feedback loop goes on and has a potential of value generation to both users and enterprises. On one hand, users get extrinsic rewards for each desired action they undertake. On another hand, these desired actions will then translate into a more social reach, which can be later translated into Brand Loyalty.

If brands and users are engaged in this feedback loop, companies have a constant knowledge regarding how well a product is perceived by players, without having to spend significant amounts of money in Focus Group. Companies can refine their products and services to offer an exceptional service, and users are gaining value in the process.

Better Targeting

A basic function of CRM is to be able to identify the most profitable customers. This state of the art has focused on some important Gamification analytics that can help brands and retailers have a better segmentation of their market, such as Top Users and Daily/Monthly Activity measures.

Gamification Analytics allows to target the most influential users. Brands and retailers can then reward them by giving product samples or offering special discounts, and as such encourage a repeated behaviour.

Another relevant set of information comes from user's interaction with the application. Players will rate products, watch videos and share the products that they like. This information will then allow brands and retailers to incentivize purchase, by giving immediate discounts on those products or similar ones that were rated, shared, commented, etc by the players.

Trigger Events

Mathouse cited in Verhoef describes a Trigger Event as "something that happens during a customer's lifecycle that a company can detect and portends the future behaviour of the customer". A Trigger event can lead to positive or negative outcomes, such as a customer ending the relationship with a brand.

By measuring the activity of a player in the system, brands and retailers can decrease the time of reaction to such events and increase the outcome of response. For instance, a player that leaves the game or no longer engages in activities can easily be detected by Analytics measures. If we imagine the example of Samsung Nation, a player could be engaged in a challenge in order to win a high-end tablet and suddenly leaves the application. Samsung could quickly react and offer special deals in order to "lock-in" the player.

3.2.1.3 Marketing Actions

| CRM Process | Topic | Use of Gamification |
|--------------------------|-----------------------------|---|
| Marketing Actions | Cross- Selling | 1. Offer special deals for predictable Product Bundle based on user activity and gamification analytics |
| | Multi-Channel Marketing | 1. In-store campaign - Check-in in stores (NFC) - POS Marketing (NFC) 2. Outside Campaigns - Smart Posters (NFC, QR Codes) - Smart Objects (NFC, QR Codes) 3. Home Campaigns - dual screen interactivity (ACR) |
| | Loyalty and Reward Programs | 1. Replace Traditional Loyalty Cards - Social Loyalty and Reward Schemes – points, badges, challenges, feedback systems, rewards and discounts 2. Create Ambassador Programs based on most-loyal players: reward and stimulate "evangelizing" process |
| | Customer Service Actions | 1. Help Desk Management - Question and doubts about the product addressed by players (ex: Samsung Nation) - Instructions Manuals and Product Usages Gamified (Dixan – Guide des Taches) |

TABLE 11- MARKETING ACTIONS

Source: Own Analysis

Marketing actions have an impact on customer retention, customer database growth. According to Verhoef, marketing actions have a very strategic importance since he considers that the outcomes of such actions will be visible in CLV - Customer Life-Time Value and, consequently, in Firm's Value.

This step of the "Gamification in CRM Processes" Model suggests how it is possible to generate value for the end-user through the incorporation of Gamification strategies in Marketing Actions, as well as the combination with other technologies and devices.

Cross Selling

Gamified systems bring the opportunity for cross-selling at an individual level. The way players interact with gamified applications can provide retailers with powerful insights on individual purchasing patterns.

Nike, for example, saw an increase of 30% of its Running Category after the implementation Nike+, which shows the possibility of sales increase with a Gamification. In this case, Nike can have the possibility of offering special discounts in-store and online for products that are normally bought with its Running Category and cross-sell additional products.

Most importantly, Gamification mechanics employed can create an incentive for cross-selling. Companies gather information on player's activity, namely the products they rate, share, comment and give feedback to. It's possible for companies to understand, at a very individualized level, which products consumers would be willing to buy together. By understanding consumer's behaviour, it is possible for companies to understand possible product bundles that consumer's may be interested in, in a personalized way.

Multi-Channel Marketing

Gamified systems allow consumers to interact with brands and retailers through very different channels. As seen in the State of the Art, more and more retailers and brands are offering different shopping channels opportunities, both online and offline. Having this mind, it becomes clear that brands need to be able to be present in these channels in order to attract and retain customers.

In-store campaigns

NFC technology can be applied in several ways that may be potentially gamified. NFC-enabled smartphones can interact with every single aspect of the physical world with a NFC tag. There are several marketing actions that can be undertaken by using NFC:

- **Check-In:** In every brand store users can tap their phones in Kiosks and automatically receive points for that. Challenges can be created to incentive users to check-in in as many stores as possible.
- **POS Marketing:** Users receive points for each purchase when using their smartphone as a mobile wallet. It is also possible to create a Social Game where users can exchange points among each others in order to win the desired reward.

Outside Campaigns

Several interesting Gamification campaigns have been brought to life by the usage of a smartphone to interact with physical objects in the real life.

For instance, Sony launched a Gamification campaign called "Xperia Unleashed". This campaign consisted in scanning QR codes in hidden robots across the city of London. Users could receive several prizes if they engage with such campaign.

WeSC, a clothing brand, used a Gamification campaign by recurring to NFC technology. WeSC embedded the brand's shoes with NFC tags and put several step mats across several cities where users would unlock features every time they stepped in and receive special deals for it.

Other usages can be given to both NFC and QR codes technologies in Gamified systems such as:

- **Interactivity with Smart-Posters:** opportunity to win points and unlock features by taping (or scanning) as much as you can;

- "Treasure Hunt" - tap (or scan) your phone into as many locations or as in many smart objects as you can;

Home Campaigns

The usage of dual screen has revolutionized the way users interact with their TVs. ACR (Automatic Content Recognition) is a technology that enables users to have a better experience with their TV by a trigger in real-time of improved content and interactivity. According to a study by JWT Intelligence, almost 90% of smart phones and tablets owners are using their devices at the same time they are watching TV, and a significant percentage of those go online after an ad to know more information about the brand and discounts.

There are already some brands that are taking advantage from the increase number of Smart TVs and mobile devices in the living room by creating fun experiences to the consumer, while at the same time increasing brand awareness and levels of engagement.

Pepsi launched a gamified campaign called "Tag this Ad, Win a Pepsi" to encourage users to find and tag a Pepsi ad. By doing so, users would get a digital coupon that could be exchanged for a real Pepsi.

Another campaign brought by Coca-Cola in 2011 in Hong Kong is worth referring. Coca-Cola created a Gamified application called Chok, which allowed users to collect virtual bottle caps. Each time a Coca-Cola commercial was on, the smartphone would identify the sound-waves, and send a challenge to the users to shake their phone as quickly as possible, to win prizes.

Brands and retailers can leverage from the inclusion of ACR in their gamified applications since high levels of interactivity and "Tag" campaigns can be shared in Social Media and thus increasing the reach and virality of those ads.

Loyalty and Reward Programs

One of the main potentialities of Gamification is the possibility of digital systems replacing Loyalty Cards and the need for cutting coupons out of magazines.

Replace Traditional Loyalty Cards

As stated in the State of the Art of this dissertation, consumers are getting tired of reward programs and carrying physical cards in order to have access to store discounts.

A Gamification application is, by nature, a Reward Scheme, where users are rewarded by following a desired behaviour. Having this in mind, Gamification can likely shape the Reward and Loyalty industry since users could receive discounts by engaging in digital activities that could increase brand awareness.

Users receive points, badges, level up, etc and this could be exchanged in-store for real discounts in purchased products.

Moreover, if combined with NFC technology in POS, Gamification could revolutionize Loyalty industry. Brands and retailers could have more access about their consumers than what traditional loyalty cards permit. Mobile Payments would allow retailers to have access to the purchase history and the possible interaction with kiosks or smart-objects in-loco would also provide some relevant insights in consumer's purchase patterns.

Create Ambassador Programs with most-loyal players

Gamification analytics allows retailers to identify the most loyal fans based on their activity. In addition, it is also possible to identify those that have a bigger influence in Social Networks.

This can be used to create an Ambassador Program, aiming to "evangelize" the brand, led by the most important players. This Ambassador Program would be seen as the ultimate level that a player would want to achieve in the game. This would be the highest status and, as such, players would have an incentive to share this accomplishment in SNSs, like Facebook and Twitter.

Additionally, these players would receive prizes and special rewards by highly promoting the brand over SNSs and contribute to increase loyalty levels towards that brand.

Customer Service Actions

Gamification applications can be used as Customer Service mechanisms. Companies can encourage players to help other players in questions they might have by rewarding such behaviour. The process of learning on how to use a product can also be subject to Gamification.

Help Desk Management

A crucial aspect of CRM is Customer Service. Brands and retailers need to be able to quickly address customer's inquiries and complaints and be able to answer and solve any problem or questions they may have.

Gamification applications can be used to provide an improved Customer Service by allowing other players to participate in that process. In Samsung Nation, for example, players are rewarded by participating in Q&A sessions and by helping other players to take the most out of their Samsung gadget. Such strategies can help companies to create a strong and loyal community that is willing to help each-other in order to generate more value for the individual and for the community as a whole. Brands and retailers need, however, to manage this channel in order to avoid uncomfortable situations that may arise by letting players address other players' issues.

Another usage that can be given relates to the learning process of product use. Brands and retailers can turn the learning usage of a product more fun by teaching through a gamified way.

Guide des Taches, by Dixan, is an application that teaches users how to use Dixan products in laundry and how to correctly and efficiently use your wash machine, and in a step-by-step fun way they can make a better usage of their time and the product bought.

Such type of applications are very interesting since they can provide, in real-time, instructions to the user on what he should do to solve a problem, in a fun way, without having to read through a long manual instructions.

3.3 Hypotheses Formulation

The "Gamification in CRM Processes" Model represents how Gamification can impact several CRM functionalities.

This model shows how retailers acquire and use data, how they use it in marketing actions, which includes loyalty programs and customer service, and if this can be translated in customer outcomes and, ultimately, in Firm Value.

According to Anderson et al (2007) retailers are shifting its approach in how they connect to their customers, by knowing more about their customers and improving the quality of the data collected). In this model, the first dimension is indeed related with Data Acquisition from customers, in terms of quantity and quality levels. This data is extracted from the integration with social networks and from the platform itself. Hence, for the purpose of this study, the first hypothesis is:

H1: Gamification increases the amount and quality of collectable data.

The sub-components that are going to be analyzed in order to test H1 are linked to the notion that Social Networks can be a source of data and provide an advantage to retailers, as suggested by Contantinides et al (2009):

H1.1: Consumers are willing to provide basic data, sign up with social networks and give access to their location.

The second dimension of the model refers to Data Utilization. Retailers need to use this data to be able to do a better targeting, to trigger events and to make personalized offers, as well as being able to create loyalty programs and enhance its customer service (Verhoef et al, 2007). For the purpose of this study, we study whether customers value the functionalities of the implementation of a Gamification strategy by retailers. Based on this, the second hypothesis is:

H2: Consumers are interested in participating in Gamified platforms.

The interest in participating in Gamified platforms are measured in the survey through different perspectives: interest in game characteristics and level of interaction with a loyalty gamified application.

Hence, the several components of to be analyzed for H2 can be decomposed in the perception that consumers value game mechanics and dynamics (J.Simoes et al, 2013) and that they are willing to interact with the functionalities (Zickermann, 2011):

H2.1: Consumers value game mechanics and dynamics and are willing to interact with the game functionalities of a gamified application.

Finally, according to the “Gamification in CRM processes” model, the Marketing actions dimension is translated in Customer Outcomes. Verhoef et al (2007) measure these outcomes in terms of customer loyalty, which includes customer satisfaction and up buying intentions. Having this in mind, the third hypothesis is as following:

H3: Gamification is able to increase Brand Loyalty.

In order to test the hypothesis mentioned above, some components concerning Customer Outcomes, in terms of loyalty and virality, as suggested by Verfoef et al (2007) are going to be studied.

H3.1: Consumers consider becoming more attentive to future marketing campaigns;

H3.2: Consumers consider refer the brand to friends;

H3.3: Consumers consider buying a product and/or switching from a competitor.

3.4 Survey Methodology

In order to test the hypothesis previously mentioned, a survey was created. This survey is directed to individuals in order to assess the perceived value and interest they may have when using Gamification applications.

This survey is divided in six main areas. The first part of the survey is drawn up in order to have an idea of the use of recent technologies by the sample (Smartphones, NFC, Smart-TV, etc) that can be used for Gamified applications and campaigns. The second part of the survey is intended to have a gaming profile of the users, using the framework suggested by Bartle, and to see if there might be positive feelings towards Gamification depending on it. The three last sections of this survey present real examples of Gamification and present questions on how and why people would be interested in engage with such platforms. The third section aims to collect information about the perceived value of game mechanics and dynamics. The fourth section presents a real brand example – Samsung Nation Platform – and intends to assess into which extent people would interact with the platform, provide data and would see it as beneficial. The fifth question presents a real Gamification campaign by Sony, and pretends to know if people are interested in engage in the campaign and into which extent the perceptions towards the brand may increase. Finally, the sixth section aims to collect demographic data about the survey participants.

A focus group of 8 people was created to first take the survey. This focus group intended to provide feedback about the survey's structure, questions' clarity and used concepts. After the initial feedback has been collected, the survey was then distributed across some channels. The chosen channels were: e-mail, social networks- Facebook, LinkedIn and Google+.

The main advantage of online channels is the ability to reach a broader sample and individuals in distant locations, in a much easier and faster way (Wright, 2005).

In order to understand into which extent consumers may be willing to adopt Gamified applications, rating scales are used. Rating scales allows us not only to

know the opinion of the respondent but also the direction strength of that opinion (Garland, 1991). According to the same author, in order to make sure respondents do make a choice and adopt a certain position, it is preferable to have a rating scale without a neutral or mid-point. However, this method brings some bias and does not reflect situations where consumers may be indifferent to certain functionality.

In order to test if consumers will be interested or indifferent to Gamification's benefits, a 1-5 scale was used. Data provision is a very sensitive topic and, as such, a 4-Points Likert Scale was provided in order to have a clear notion whether customers would or would not be willing to provide relevant information for brands and retailers, since most gamified platforms require integration with social networks, as mentioned in the State of the Art.

The survey analysis was performed with SPSS. Descriptive Statistics are presented in order to illustrate the perceived value of Gamification features and functionalities. Additionally, aiming at finding patterns in data – e.g- relationship between variables, mean differences between groups, Pearson and ANOVA were also used, respectively.

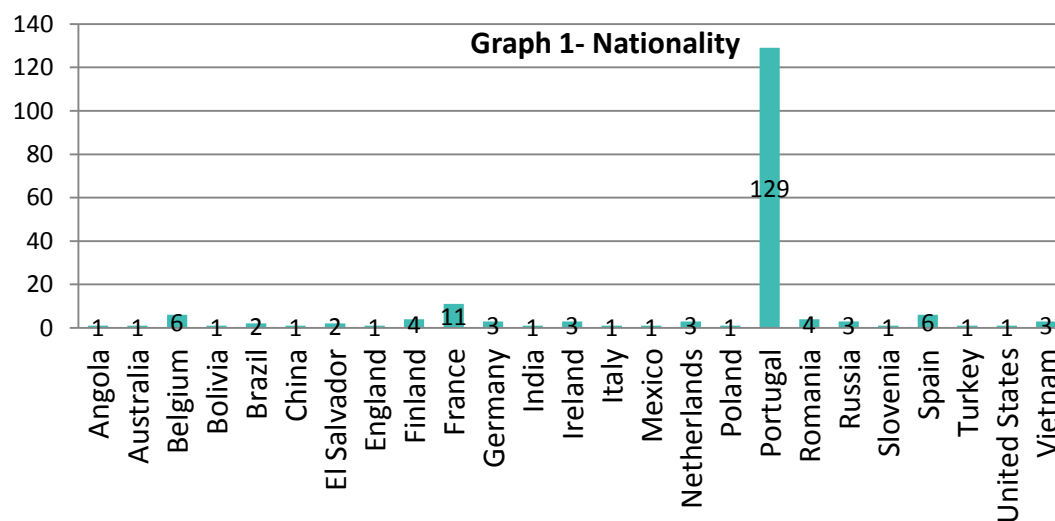
4 ANALYSIS AND DISCUSSION

This chapter aims to provide an analysis on the online survey and discuss its results. Firstly we analyze the sample and its characteristics – descriptive statistics. Secondly, we analyze the perceived benefits of Game Mechanics and Game Dynamics. Thirdly we present an analysis of the attractiveness of Gamified Apps and Campaigns. Lastly, a survey conclusion is presented and the hypotheses are addressed.

4.1 Sample Characteristics

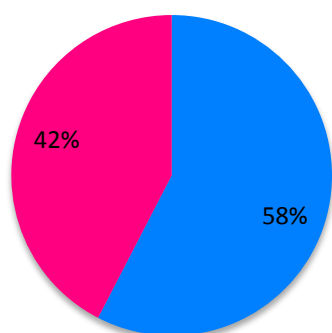
4.1.1 Demographics

A total of 191 people from 25 different countries took part of this survey. The great majority of respondents have Portuguese nationality (67.5%).

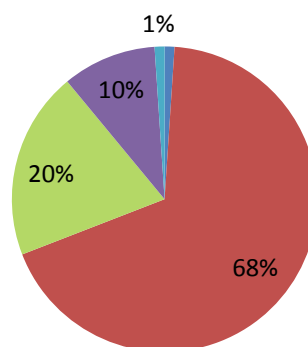


Other relevant demographic data refer to the gender and age. 58% of the respondents are male (vs. 42% female respondents). The age group most represented in the sample is 18-25 (68%), followed by 25-29 (20%).

Graph 2- Gender



Graph 3- Age



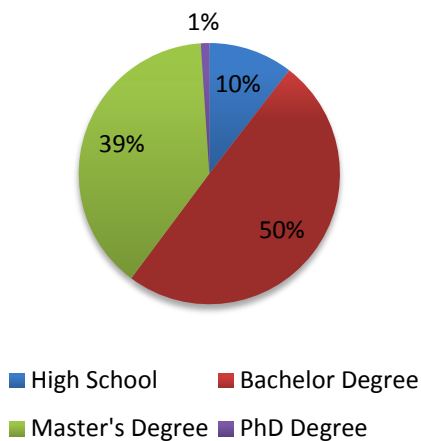
■ Male ■ Female

■ Under 18 ■ 18-24 ■ 25-29 ■ 30-49 ■ 50-64

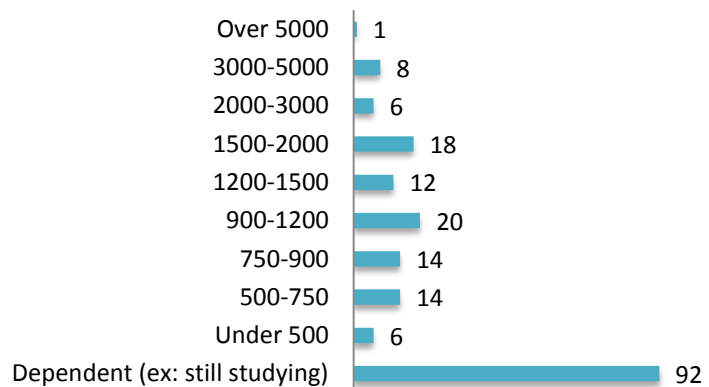
Other relevant factors include disposable income and level of education. 89.5% of respondents have a college degree (50% hold a Bachelor Degree, 39% hold a Master Degree and 1% hold a PhD Degree).

In terms of disposable income, 48.2% of the selected sample is still dependent on others (e.g- studying), whereas 7.3% of respondents earn more than €2.000.

Graph 4-Highest Level of Education



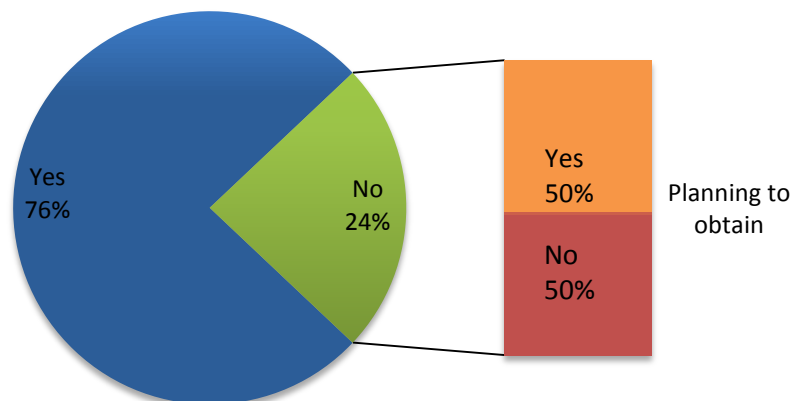
Graph 5- Disposable Income



4.1.2 Technology usage

As mentioned in the State of the Art of this Dissertation, most of Gamified systems are based on smartphone apps and some may require extra features (e.g- NFC enabled phones), which may affect the rate and speed of adoption.

Graph 6- Do you have a Smartphone with a 3G data plan?



76% of the people that took the survey already possess a smartphone with a 3G

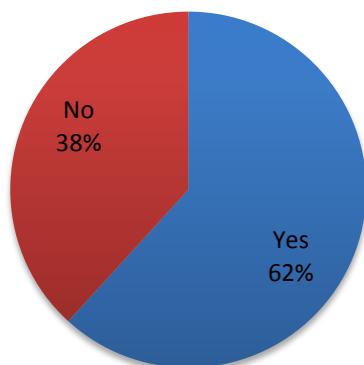
data plan. According to the study, 50% of those that still do not have are planning to obtain in the near future.

Only 39 respondents have mentioned that they have NFC enabled smartphones, 52 people do not know and the remaining affirmed that their phones did not have that functionality.

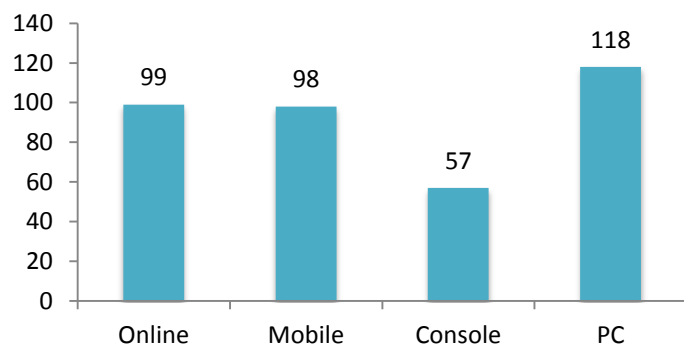
When it comes to smart-tvs, 36.3% of the people already have one (vs 63.7% that do not have). When compared to smartphones, there are less people interested in purchasing a smart-tv in the near future. Only 14% of those who still do not have a smart-tv are planning to acquire one.

4.1.3 Gaming Profile

Graph 7- Do you usually play Video Games?



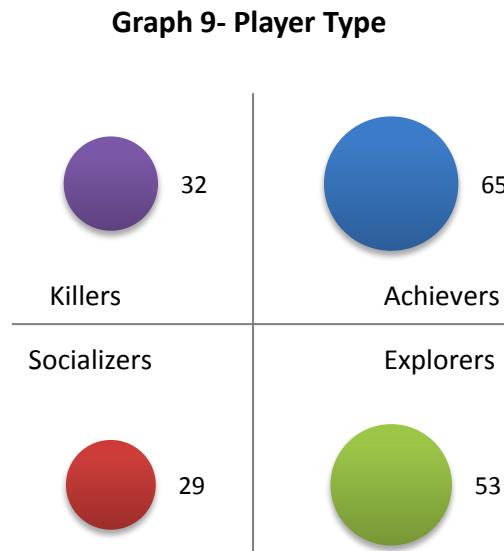
Graph 8- Which platforms do you mostly use?



The majority of respondents play video games in a regular basis (62%). PC is the platform with greatest usage – 118 out of 191 respondents play video games in their Pcs, followed by online and mobile – 99 and 98 respectively. The platform with the least expression is console.

Concerning average time spent playing video-games per week, almost 20% play more than 5 hours per week. 48.7% plays less than one hour per week, 31.4% plays between 1-5 hours, 12% between 5-10 hours and the remaining admitted to spend more than 10 hours a week playing video games.

People who took the survey were also asked to position themselves in the Bartle's Framework (1995).



The graph above plots the player types according to Bartle's Matrix. Most players are interested in acting and interacting with the world (game) rather than with players. 65 players characterize themselves as Achievers, 53 as Explorers, 32 as Killers and 29 as Socializers. The remaining players plotted themselves in the axis of the Matrix. A heat map can be found in attachment.

Bartle's Matrix is of the utmost importance in order to understand the dynamics of a Gamified application and how players would interact with the game mechanics that are created.

4.2 Perceived value of Gamified Apps

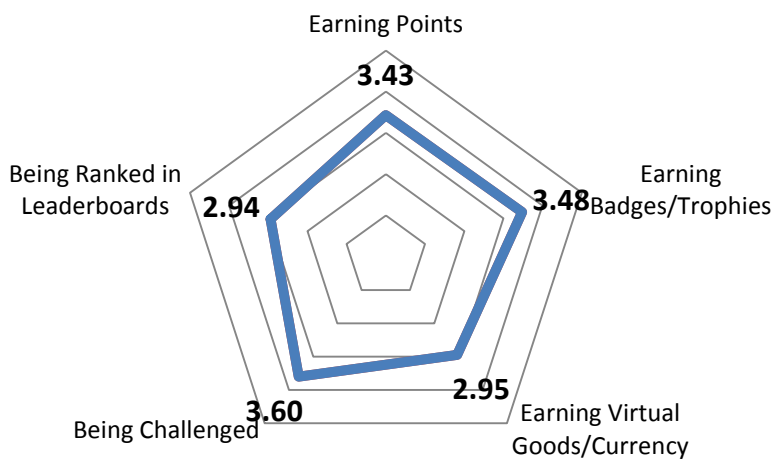
In this section of the survey, users are presented with real examples of Gamified applications and are asked to rank the perceived benefits, assess into which extent they would be willing to provide data and how they would interact with the applications.

According to our study, only 70 people out of 191 have heard of the term « Gamification » before taken this survey.

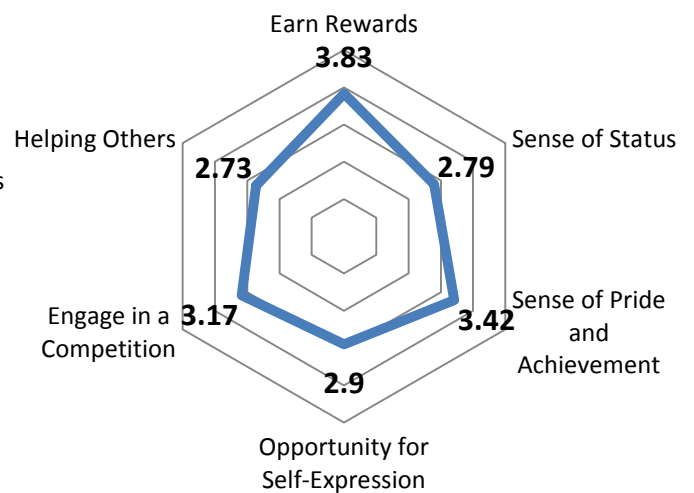
4.2.1 Perceived importance of Game Mechanics and Game Dynamics

After being explained how Foursquare- a gamified application- works, respondents were asked to rate the perceived value of Game Dynamics and Game Mechanics mentioned in the Literature Review. As mentioned in the Survey Methodology, a 1-5 rating scale was used in order to have a clear idea whether consumer appreciate or not Gamification functionalities or if they are mere indifferent.

Graph 10- Game Mechanics



Graph 11- Game Dynamics



When it comes to the perceived attractiveness of Game Mechanics, respondents tend to prefer to Earn Points, Earn Badges and Trophies and to Be Challenged, with ratings of 3.43, 3.48 and 3.6, respectively, which show that people value this mechanics. Also to highlight that more closely $\frac{1}{4}$ of the interviewees attributed the highest rating possible (5) to Being Challenged. As for Being Ranked in Leaderboard and Earning Virtual Goods/Currency, we can assume that respondents are relatively neutral/indifferent to this mechanics, due to a rating close to 3.

As for the Game Dynamics linked to Gamified platforms, respondents attributed the highest ratings to Earn Rewards (3.83 out of 5) and Sense of Pride and Achievement (3.42 out of 5). On the other extreme, Helping Others (2.73) and Sense of Status (2.79) had low levels of attractiveness. Helping Others received the

lower scores where 38.2% gave negative ratings (1 or 2), which shows a lack of interest for this functionality.

Factors explaining perceived benefits of Game Mechanics and Game Dynamics

In order to assess the existence of differences between different groups we used ANOVA.

1. Are there significant differences among Gaming Profile types and perceived benefit of Game Mechanics and Dynamics?

When looking for patterns in our data that could explain the perceived benefit of Game Mechanics and Dynamics, we noticed that there were some mean differences among heavy gamers and light gamers, where means are higher in the first. In fact, using ANOVA we come to the conclusion that this has statistical relevancy when it comes to the perceived benefit of Engaging in a Competition.

2. Are there significant differences Age echelons and perceived benefit of Game Mechanics and Dynamics?

Age differences seem to be the major differentiator factor when ranking the perceived value of the functionalities above. Indeed, when comparing means from different age echelons, younger people seem to be more attracted to these game features, except in the feature "Helping Others" where the pattern is in a reverse order, i.e, older respondents seem to be more willing to help others and younger respondents are giving more negative ratings (e.g- Under 18 Group Mean for this feature rated 2.5 out of 5; 18-24 rated 2.6 out of 5; 25-29 presented a mean of 2.9 out of 5; Group 30-49 rated 3.1 out of 5; Over 50 – rated 4 out of 5)

4.2.2 Perceived importance of Story Line

Results show that the introduction of a storyline increases the value of a Gamified app, with a mean of 6.5 additional value out of 9 (measure of added-value, being 1- no added value)

This factor is of the upmost importance for heavy gamers. Actually, using SPSS to compare means, the two heavier-gamers echelons (5-10 H per week and >10H per week) show averages of 8.04 and 8.20, respectively.

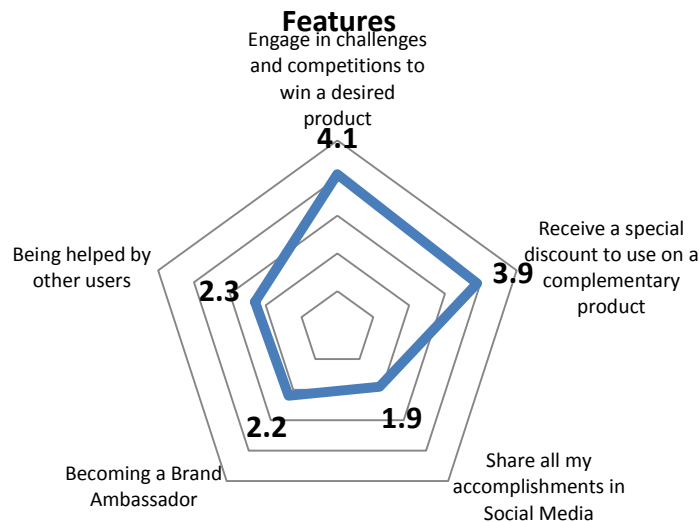
Having this in mind an ANOVA analysis was performed. Indeed, the differences in groups are statistically significant. ($p < 0.05$). By calculation the Coefficient of Determination ($R^2 = SSB/TTS$), we obtain a value of 0.159. It tells us that 16% of the variation of the perceived value of a Story Line is explained by the gaming profile of respondents.

4.3 Perceived value of Branded Loyalty Gamified Apps

Respondents were introduced to Samsung Nation, a gamified platform that aims to create a Samsung community and to increase the levels of engagement towards the brand through the introduction of game mechanics.

4.3.1 Attractiveness of App's Features

Graph 12- Attractiveness of Platform's



Those who took the survey are relatively highly attracted to the opportunity to engage in challenges and competitions to win a desired product (4.1 out of 5) and the opportunity to receive related discounts (3.9 out of 5).

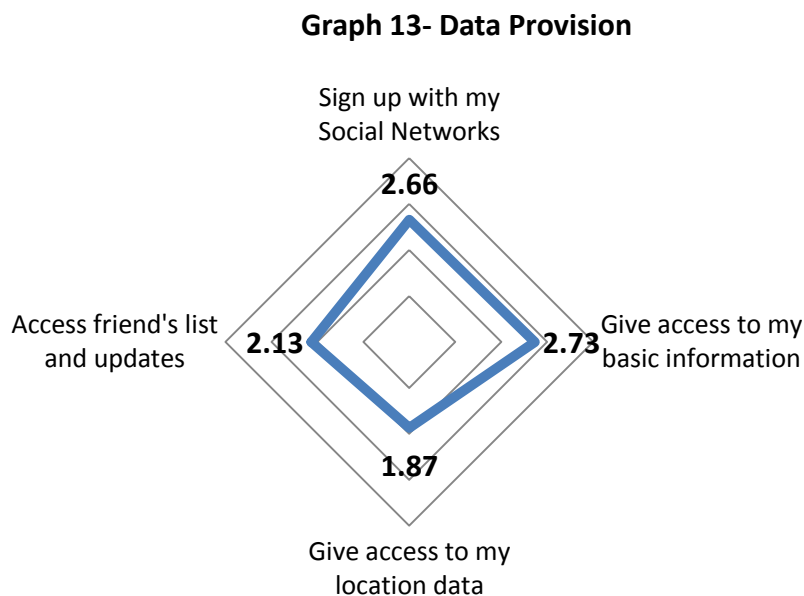
However, respondents show a great discomfort to share their accomplishments in Social Media (1.9 out of 5) and a lack of interest in becoming a Brand Ambassador (2.2 out of 5).

Even though possible players of a gamified app are interested in engage in challenges to receive discounts and other prizes, they don't seem to be interested in highly sharing their progress on their Social Networks nor promoting the brand over the same channels. Actually, 45.5% of respondents attributed Rating 1 (1-5 Scale) to Sharing in Social Media and 72% gave a negative overall rating.

As often referred, some companies have been using Social Media as an important channel in their gamification strategies. However data suggests that users may not be interested in that functionality and even may perceived it as negative.

4.3.2 Data Provision

One of the main benefits that gamified loyalty programs may have over traditional loyalty cards is the possibility of having access to the Social Graph of consumers and leveraging smartphone features to push contextualize discounts and promotions according to user's geographical location.



A Likert Scale was used in order to have a clear indication whether respondents will be willing or unwilling to provide certain type of data. Results shows us that consumers are probably likely to Sign Up with Social Networks (2.66) and to Give Access to Basic Information (2.73). As for Giving Access to Friend's Lists and Updates, the value is lower (2.13). However, on the other hand, they are extremely reluctant in providing data concerning their location (1.87).

Indeed 54.5% of respondents would be likely or very likely sign up with their Social Media accounts whereas only 23% would be willing to provide access to GPS locations.

Factors explaining Data Provision

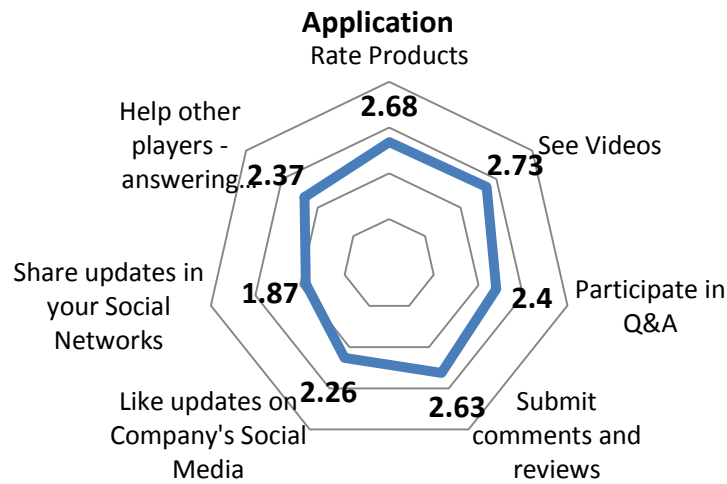
Age seems to be the most crucial factor affecting the levels of Data Provision. ANOVA analysis shows that there are statistically relevant differences among age echelons for all the variables of this section of the survey. Indeed, 6% of the variation of Data Provision related to Signing Up with Facebook and Giving Access to Local Data can be explained by Age Echelon.

Additionally, Gaming Profile (Player Type) also seems to influence the willingness in providing Data. It was found a positive relationship between Socializers and all the variables above. Pearson Coefficient was used to establish the relationship above mentioned and the results obtained are: Sign Up with Social Networks (Pearson C. 0.194), Give Access to Basic Information (0.163), Give Access to Location Data (0.143), Access Friend's Lists and Updates (0.192).

4.3.3 Application Interaction

Following Samsung Nation example, respondents were asked to rate how they would interact with the gamified platform.

Graph 14- Interaction with Gamified



The highest mean ratings were attributed to See Videos (2.73), Rate Products (2.68), Submit Comments and Reviews (2.63). In opposition, Share Updates in Social Networks (1.87) obtained the lower score.

Related to this question, respondents were also asked to say if they whether they were interested in a Gamified Manual Instructions Material, a concept already being explored by Dixan. The question got scored 3.96 out of 5, where 28.3% affirmed that they would definitely use such application.

Factors explaining App Interaction

In this case, Age did not show statistically relevant differences among groups. However, in what concerns some of the variables above, Gaming Profile (Player Type) may have some influence. “Socializers” – people that are more interested in interacting with other players - seem to provide higher ratings than the rest of the players. Pearson Coefficient suggests that there is a positive relationship between this variable and the willingness to share updates in Social Media (C. 0.24).

4.4 Perceived value of Gamified Marketing Campaigns

The last section of the survey aimed to assess how respondents would react to a Gamified Campaign and how it might affect the perceived value of the brand.

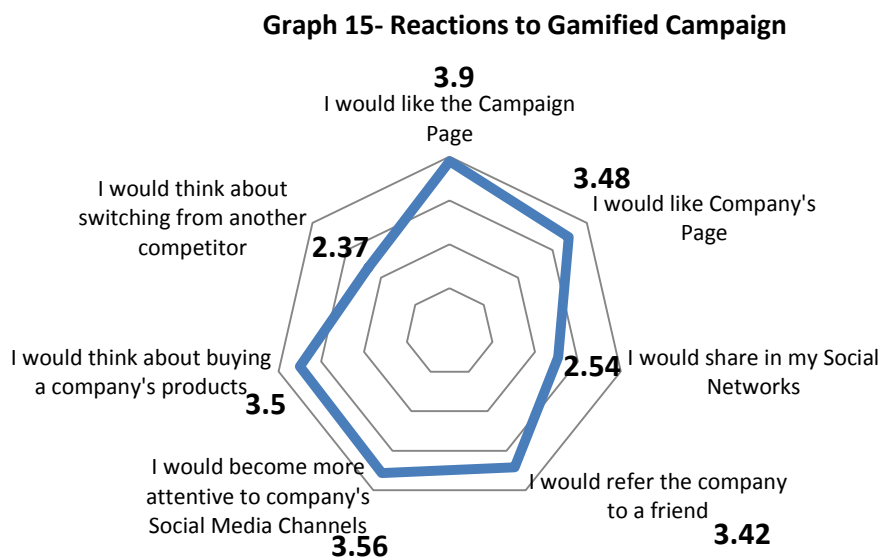
Firstly, respondents were presented with Xperia Unleashed Campaign by Sony and

were asked to rate the campaign in terms of innovation and creativity and state whether they would be interested in participating or not.

From a scale from 1-10, respondents attributed an overall mean rating of 7.85 out of 10, where 68% ranked it as 8 or above and 25% attributed a 10 out of 10 score.

When asked if they were interest in participate in such a campaign or not, 68% of people would engage in such campaign. Age seems to a determinant factor involved. Using ANOVA ($p=0.032$), it was found a Coefficient of Determination of 5.5%.

Lastly, respondents had to assess their reaction when coming across with such a campaign:



The results above show us that users show positive reactions towards such gamified application. The highest scored obtained are related to liking the campaign page (3.9 out of 5), liking the company's page (3.48 out of 5), becoming more attentive to social media (3.56 out of 5) and thinking about buying a company's product (3.5 out of 5). 13% of respondents mentioned that they would think about switching from another competitor after being presented with this campaign. Also to highlight, once more, that respondents tend to be very reluctant when it comes to share anything on their Social Media, where almost 80% of the people ranked it 3 or below.

Factors explaining Perceived Value of Gamified Marketing Campaigns

Age differences are once again subject to different mean rating values between group. By comparing mean ratings, younger segments tend to be more attractive by such type of Campaigns. ANOVA analysis shows statistically significant differences among groups in “Becoming more attentive to Social Media Campaigns” and “Consider Buying a Company’s Product” features.

Moreover, other aspect seems to have influence on how consumers perceive Gamified Campaigns. “Socializer” Category - consumers that are more interested in the interaction with others rather than with the interaction with the “world” - have attributed the highest ratings, in all product features. Pearson Coefficient suggests a statistically relevant positive relationship between Socializers and Referring the Company to Friends (Pearson C. 0.146), Becoming More Attentive to Social Media Campaigns (Pearson C. 0.172).

4.5 Survey Conclusions

After the analysis of the survey results we have the required data to address the results questions.

H1: Gamification increases the amount and quality of collectable data

In order to answer this Research Question, we must first understand whether the values that we obtained are positive or not. In fact, in a 4-Point Likert Scale, a 2.66 ranking it’s something in between scales and as such difficult to assess.

Some authors refer that when using Likert Scales that mean may not be the most appropriate measure. N. Mogey (1999) states that mode should be the most suitable variable for interpretation.

H1.1: Consumers are willing to provide basic data, sign up with social networks and give access to their location.

In order to test H1.1, the results shown in Data Provision Section are hereby presented: Sign Up with my Social Networks Account (3), Give Access to Basic Information (3), Give access to my location data (1) and Access friend's list and updates (3). These results show that consumers are likely to Sign Up with Social Network's account, give access to basic information and access friend's lists and updates. Contrarily, they are very unlikely to give access to location data.

In these terms **H1 is accepted**, by combining survey results and the State of the Art, since brands and retailers may have access to the entire Social Graph of the players and non-players of their platforms, which most of times may include more than simply basic information and is more often updated and more accurate. In terms of loyalty programs, brands and retailers may now have more info than the one provided when filling-up forms for receiving loyalty cards.

However, geographical contextual applications may face an extremely slow and low adoption rates due to the low given ratings (1.87 out of 5) of providing access to location data.

H2: Consumers are interested in participating in Gamified platforms

The categories studied in order to be able to test this hypothesis are:

H2.1: Consumers value game mechanics and dynamics and are willing to interact with the game features of a gamified application.

As for Game Mechanics, consumers seem to be attractive towards Being Challenged (3.6 out of 5; Mode 4), Earning Badges and Rewards (3.38 out of 5; Mode 4) and Earning Points (3.43 out of 5; Mode 4). When asked why they would use Foursquare, the higher scores were Earn Rewards (3.83; Mode 4) and Sense of Pride and Achievement (3.42; Mode 4). With this in mind, it is possible to conclude that consumers value some of the gamified applications features.

Samsung's Nation example also provides relevant insights in order to answer this Research Question. Consumers are indeed interested in engaging in competitions

to win a desired product. (4.1 out of 5). Additionally, from the analysis of the previous question, we can assume that consumers were likely to interact with most of the Loyalty Gamified features analyzed. These results were driven from the Mode Analysis – Rate Products (3), See Videos (3), Submit Comments and Reviews (3), Like Updates on Company’s Social Media (3), Help Other Players (3), Recommend the company to Friends (3), Share Updates in Social Networks (1). It is imperative to mention that they are very unlikely to share all updates in Social Media – fact that has been reinforced throughout this survey.

Also to mention that when consumers were faced with a clear example of a Gamified Campaign by Sony, almost 70% of the people would be willing to participate in such a campaign.

As referred in the State of the Art, some authors argue that most gamified applications fail due to lack of clear game design elements that attract consumers – like a Story Line. Run Zombies Run application is different from others in the category because of the inclusion of a clear storyline that was rated in added-value in 6.5 out of 9, where heavy gamers were clearly the ones that valued the most this features (ranking means were over 8 out of 9). Gartner Inc also refers that most gamified apps will probably fail because companies are focused on giving out meaningless badges rather than focusing on real elements of competition and cooperation. Engage in a competition and challenges were actually the most positive valued features throughout the survey, which supports Gartner’s statement.

H2 is accepted since consumers seem to show interest in participating in competitions and challenges to earn rewards. It is important to highlight, however, that is especially true in the presence of innovative and creative campaigns with a story behind. Isolated, game mechanics and dynamics do not seem to be enough for consumers to show a clear positive attitude towards Gamification functionalities (most mean averages are close to 3 – indifferent/neutral point) but the perception of receiving real rewards by engaging in real competitions appear to be far more appealing.

Also to refer that the Social Media Component of Gamification was not validated and consumers tend to show negative or very negative attitudes towards the possibility of sharing and posting updates in their Social Networks.

H3: Gamification is able to increase Brand Loyalty.

In order to answer the H3, H2 needs to have been validated. We can only assess if Gamification has a potential to increase Brand Loyalty if consumers are indeed interested in engaging and interaction with the application. As it is explained above, consumers appear to show positive attitudes towards Gamified apps.

Aiming at analyzing the perceived impact of Gamification in Brand Loyalty, a real specific case was used (Sony). This was intended to establish an emotional response towards the brand and the campaign itself from respondents and to assess if participating in challenges and competitions to win rewards may be or not attractive.

H3.1: Consumers consider becoming more attentive to future marketing campaigns;

H3.2: Consumers consider refer the brand to friends;

H3.3: Consumers consider buying a product and/or switching from a competitor.

The survey tried to assess Brand Loyalty through the components above mentioned. The mode analysis of the most rated features are as following: Refer to a Friend (4); Like Company's Page (4); Like Campaign Page (4); Become more attentive to company's Social Media (4); Consider buying a brand's product (4). 13% of respondents mentioned that they would think about switching from another competitor after being presented with this campaign.

H3 is accepted. Sony Xperia Campaign suggests that consumers would become more attentive to future social marketing campaigns; they would likely recommend the company to friends; they would consider buying a brand's product.

It was found a positive relationship among all the variables studied (Pearson Coefficient closer than 0.5 in some cases), meaning that there is a relationship between those that would become more attentive to future campaigns, those that would refer to a friend, those that would buy a product and those who would be willing to switch. For example, it was found a 0.332 Pearson Coefficient between those that would refer to friends and those who would buy a Sony product.

In other words, there is evidence of a relationship between positive emotional reactions, positive word-of-mouth and generation of economic value for the brand (measured by buying a company's product and switching from competitors) and, as such, H3 is validated.

Summary

After analyzing 191 answers, the main conclusions of the survey can be summarized:

- Respondents value game functionalities that are related to earning points, badges, being challenged;
- Respondents are interested in engaging in competitions and challenges to win rewards and discounts from brands;
- The Social Component of Gamification, i.e sharing updates and accomplishments in SNS was not validated. Respondents show a negative perception towards this component;
- Respondents are willing to provide data in order to interact with a Gamified application.;
- Respondents show positive attitudes towards effective gamification campaigns, namely when it comes to become more attentive to future campaigns, friend referral and future buying intentions.

The next chapter will aim to assess whether gamification can generate a sustained competitive advantage for firms operating in the retailing industry, in the light of the RBV model. In this analysis the results obtained from the survey will sustain whether the resource identified is valuable, rare, imperfectly imitable and non-substitutable.

5 GAMIFICATION'S POTENTIAL TO GENERATE A SUSTAINABLE COMPETITIVE ADVANTAGE

This chapter aims to discuss the potential of Gamification to generate a sustainable competitive advantage for firms operating in the Retailing industry. Firstly, it is identified the resource that Gamification features provide to firms. Secondly, this resource is then tested to see if it matches the VRIN criteria. Finally, it is then assessed whether this resource can be a source of sustained competitive advantage.

As illustrated in the Literature Review, the RBV Framework intends to assess the sources of a sustained competitive advantage (Fahy and Smithee, 1999). Under the RBV model, firms need to possess valuable, rare, imperfectly inimitable and non-substitutable resources in order to attain a sustainable competitive advantage.

After the analysis of the main functionalities of Gamification that were tested through the survey, it is relevant to understand which resources a company possesses that can be tested under the RBV Framework.

Through the use of a gamified application, brands and retailers have access to accurate and update data that can be further transformed into valuable customer information. Under the RBV Model, this would be considered as an intangible resource, which comprises intellectual and technological resources that are complementary among each other (Henry, 2008). The technology necessary to deploy a gamification platform or application generates data for firms that are considered a knowledge-resource (Lado and Wilson, 1994).

This knowledge includes: gamers' patterns, level of interaction with an app (engagement and loyalty metrics), constant feedback that might uncover future needs and market trends; gamers' social sphere, preferences and motivations.

This can be seen as Gamers' Tacit Knowledge. Tacit Knowledge is a critical element within technological innovation (Koskinen and Vanharanta, 2002). It can be

viewed as something that is difficult to put into words and has its foundations in human experience and social relationships (Koskinen and Vanharanta, 2002). Moreover, knowledge and the capacity to use knowledge are considered to be the most important source of a firm's SCA (Nonaka, 2003).

The model suggested by Verhoef et al (2007) shows a clear path between Data Acquisition, Data Utilization, Marketing Actions, Customer Outcomes and Firm Value. Gamers' Tacit Knowledge that brands and retailers is used to provide a better targeting to customers, to create loyalty programs and to offer a superior customer service. The section 4.5 of this dissertation shows that customers are willing to provide relevant data to retailers. Moreover, customers are willing to participate in Gamified apps and platforms, as a mean of a Loyalty and Reward Program, and there is also evidence of increase in Brand Loyalty.

Verhoef states that an enhanced CRM directly affects Customer Loyalty and the positive customer outcomes are then translated into value for the firm. The analysis of our survey validates the conceptual path suggested by Verhoef and as such, demonstrates that the use of Gamification in CRM can, indeed, increase Firm Value.

In order to assess whether the resources needed to develop a successful Gamification application may be a source of sustained competitive advantage, a VRIN analysis is performed.

5.1 Valuable

Resources are said to be valuable when they allow a firm to implement strategies that are able to improve efficiency and effectiveness (Barney, 1991). Demoulin et al (2009) believe that the mechanism of physical loyalty cards will end due to the fact that an average person carries several of them. Furthermore, Gartner Inc. includes Gamification in its Hype-Cycle. Having this said, brands and retailers may have the incentive to use Gamification in order to take advantages from this market opportunity, as Barney (1991) suggests.

The knowledge extracted from the applications –Gamers’ Tacit Knowledge - allows firms to offer personalized offers to its customers, which, according to the survey, is considered to be valuable by customers. As a matter of fact, customers ranked 3.9 (out of 5) the feature of receiving discounts based on complementary products that already have and 4.1 (out of 5) the possibility of earning products by engaging in a competition. Gamers’ Tacit Knowledge enables Personalization and Better Customer Service (measured by the perceived utility of gamified apps of product usage – 3.96 out of 5), which is valuable by customers.

The perceived added value of Gamification for consumers can be assessed through the analysis of section 4.4 of this dissertation– willingness to buy firm’s products, interaction with Social Media pages, referring to friends and switching from competitors. Since firm value is extrapolated from customer value, we can then assume that Gamer’s Tacit Knowledge is valuable resource.

Additionally, firms that have the ability to acquire this Tacit Knowledge and superior capabilities can, consequently, use that knowledge to foster innovation (Lubit, 2001), which can bring value to the organization.

5.2 Rare

The fact that Gamers’ Tacit Knowledge is a valuable resource for firms when using Gamification is a necessary but not sufficient condition for sustainable competitive advantage. This resource cannot be possessed by a large number of current and potential customers in order to be a source of a competitive advantage or a sustained competitive advantage (Barney, 1991).

Tacit Knowledge, by its nature, is very difficult to acquire (Hamel, 1991 cited in Koskinen and Vanharanta, 2002). Gamers’ Tacit Knowledge would result from complex interactions among players and the application itself. Nonaka and Toyama (2003) emphasize that in knowledge creation, social context is extremely relevant since it is the basis to create meaning for the information obtained. According to the authors, knowledge is created through human interactions. As such, Gamers’ Tacit Knowledge is extremely hard to be captured by competitors since it’s embedded and deeply ingrained in a firm-specific social and cultural

structure (Clanek, 2004), and comes from a long process of learning (Lee and Yang, 2000).

The concept of Network Effect is also relevant in a gamified application. A network effect occurs when consumers derive more utility and value from a product or service based on the number of users (Goldenberg et al, 2010). The intrinsic value of the number of members in the network and their relationships is the basis for the value creation of Tacit Knowledge. (Sellens, 2009). Direct network externalities occur when the value for users increase with the number of newcomers (Linde et al, 2011). These externalities include cooperation between players, communication advantages, information and data exchange between users and the platform itself. Additionally, indirect network effects are characterized by an increase in a network's value due to extra benefits that derive from other complements. In this case, we can mention the benefit that users get by the existence of other accessories and media devices (e.g- wearable computing, NFC technology), additional applications, etc. that bring more fun to the application. Summing up, direct and indirect network externalities increase the attractiveness of a platform (Linde et al, 2011).

This view suggests that Gamers' Tacit Knowledge – which, as mentioned, covers complex social interactions between players, constant feedback and interaction with the a branded application - is a rare resource due to its nature and due the necessity of achieving significant positive network externalities.

5.3 Imperfectly Imitable

This type Tacit Knowledge that derives from Gamification is a source of temporary advantage, according to Barney, since it is valuable and rare.

In order for it to create a sustained competitive advantage, competitors cannot copy this resource. This depends on three conditions: unique historical conditions, causal ambiguity and social complexity (Barney, 1991).

In what concerns unique historical conditions, a culture of constant feedback and direct contact with customers may be the differentiator factor between a

successful gamification application and a flop (Rao, 2012). Rao (2012) states that NIKE, Inc's competitors cannot replicate the success of Nike+, despite having access to better technology. The author justifies this fact with Nike unique characteristics regarding the way they interact with their customers and the service provided with Nike+, and as such cannot gain access to Nike's Tacit Knowledge about their customers. Gamification employed in the CRM has a casual path, and all the dimensions of the framework are extremely related and, as such, it is difficult to replicate.

Causal ambiguity happens when firms are not able to clearly understand the source of SCA (Barney, 1991). Tacit Knowledge, by definition, is difficult to formalize and often is time and space-specific (Nonaka and Toyama, 2003). It is very difficult for competitors to understand which resources to acquire and how to configure them in order to extract the same data (Clanek, 2004). In this case, data refers to gamers' patterns, interaction with other players and with the game, their main sources of motivation to engage with the application, their habits, etc, which is extremely difficult to formalize.

Lastly, the Tacit Knowledge obtained comes from a very complex social mechanism (Nonaka and Toyama, 2003), since it depends on players' interactions, something that has been reinforced in this section of the dissertation.

In addition, loyalty programs, as illustrated in the State of the Art, seriously augment the Switching Costs (Taylor and Neslin, 2005). Customers do not want to lose all the points that they have already collected and to miss on the opportunity of gaining a brand new product or other reward, so they are locked-in the gamified application. Moreover, the network externalities, as illustrated previously, augment the overall attractiveness of the gamified platform and, as such, make players more unwilling to switch to competitors' applications. This means that if competitors try to replicate this resource, they won't be able to extract the same value.

In a nutshell, since all the requirements are met, we can assume that Tacit Knowledge is an imperfectly imitable resource.

5.4 Non- substitutable

There must not be strategically equivalent resource widely accessible in the market in order for firms to attain a SCA (Barney, 1991).

Tacit Knowledge originates from a lifetime of experiences, practice and learning processes, which involves a huge amount of time and effort (Clanek, 2004).

The biggest barrier for the diffusion of Tacit Knowledge is the time consumption that the internalization of it requires (Clanek, 2004). Since Gamers' Tacit Knowledge is deeply complicated to be understood due to its ambiguity (result from complex social interactions among players and the application itself) and it takes time to be embedded in a company, competitors will find deeply complicated to find the right combination of alternative resources that can result in similar value.

This means that the very nature of Gamers' Tacit Knowledge is what makes it to be non-substitutable.

5.5 RBV Analysis Conclusion

The VRIN Analysis that was performed above enables us to state that the Tacit Knowledge that is linked with a Gamification strategy meets all the VRIN criteria.

"We know a lot more than we can express" (Polanyi's quotation cited in Clanek, 2004). The main reasons that lie behind this sentence are related to the fact that Gamers' Tacit Knowledge is a process that occurs during a long period of time and it is extremely hard to understand.

However, Gamers' Tacit Knowledge can only be a source of SCA if it is related to a deep process of organizational learning. Organizational learning is the process of continued innovation through knowledge creation (Quinn et al, 1996 cited in Clanek, 2004). This organizational learning is only possible by means of an effective Knowledge Management. It is a process where firms find value out of data and it involves several components, ranging from how the information is obtained,

cleaned and used. The major goal of Knowledge Management is to boost innovation (Meso and Smith, 200). Furthermore, this Knowledge Management is the key factor that allows companies to have an effective of organizational learning (Clanek, 2004).

There is a deep relationship between Gamers' Tacit Knowledge, organizational learning and SCA. According to Meso and Smith (2000), a SCA is achieved through continuous innovation that results from new knowledge, which is created by organizational learning.

This virtuous cycle shows evidence that if brands and retailers are able to have access to Gamers' Tacit Knowledge, as a result from a complex organizational learning process, they will be able to be constantly innovative. As such, by increasing the pace of organizational innovation, the competitive advantage would be sustainable, since they will always be ahead on what they know compared to competitors.

It is also important to state that technology per se cannot be a source of SCA. It only can be considered as such it allows firms to develop higher capabilities and competencies. Having this said, resources (like technology), per se, do not confer value to organizations (Henry, 2008).

Technology must be deployed in the entire Knowledge Management System (Meso and Smith, 2000), for companies to develop distinctive capabilities. In the specific case of a Gamification application, those capabilities may refer to enhance data mining, to develop superior design, to offer a better customer service, etc.

In a nutshell, Gamers' Tacit Knowledge constitutes a source of SCA, if companies are able to have a good organizational learning, which will furthermore lead to new knowledge and continuous innovation.

6 CONCLUSION

The analysis of the existing literature highlights the increasing pressures brands and competitors face to stay competitive, in an environment of globalization and demanding customers. In this context, brands and retailers try to develop meaningful loyalty and reward schemes and to increase their presence over SNSs.

A new concept has been increasingly gaining buzz - Gamification - and several analysts have spent time trying to assess its potential in different industries. The fundamental reasoning of using Gamification is to increase customer participation and retention rates, by including fun and progression elements in marketing campaigns or loyalty schemes, similar to those that we may find in real video-games (Sridharan et al, 2012).

This dissertation focuses on the impact of Gamification in brands and retailers CRM's strategies, by offering customers with a more fun and innovative loyalty and reward applications. Hence, the two Research Questions of this dissertation are:

- 1. Are there characteristics in a Gamification strategy that create value for the end user?**
- 2. Can brands and retailers attain a sustainable competitive advantage by incorporating Gamification in their CRM practice?**

So as to assess the added-value of Gamification for brands and retailers, a "Gamification in CRM Processes" Model is created, illustrating how Gamification features can be applied in CRM. This Model's inspiration derives from a conceptual framework by Verhoef et al (2007). It represents a clear path between data acquisition and firm value, where the last one is directly extrapolated from customer value and outcomes. Following this, the following hypotheses are formulated.

- H1: Gamification increases the amount and quality of collectable data.
- H2: Consumers are interested in participating in Gamified platforms.
- H3: Gamification is able to increase Brand Loyalty.

Aiming at assessing the perceived added-value of Gamification by consumers a survey was conducted to 191 people.

Through the survey analysis it was possible to validate the three hypotheses. Regarding H1, consumers are willing to sign up with Social Network, to give access to basic information and to provide access to friend's lists and updates, which increases the amount and quality of collectable data. As for H2, the survey also suggests that consumers are interested in participating in gamified platforms. Consumers seem to be willing to interact with the platform and to engage in challenges to win rewards, points, badges, etc. Moreover, 70% of respondents are also willing in participate in fun marketing campaigns, after being presented with Sony Xperia campaign. In what concerns H3, the survey analysis also suggests that Gamification is able to increase Brand Loyalty. When presented with Sony campaign, consumers admit that they would become more attentive to the brand's campaign; they would refer it to friends and would consider buying a company's product.

After validating the three hypotheses, Gamers' Tacit Knowledge was identified as the most important resource that firms can obtain when embedding Gamification in their CRM strategy. This resource was then tested under the RBV Framework in order to assess whether Gamers' Tacit Knowledge obtained through a gamified application can be a source of sustainable competitive advantage. This Tacit Knowledge is indeed a VRIN resource - condition that needs to be met in order for it to be a source of SCA. It is extremely hard to formalize; it's firm specific; it's a result of gamers interaction with the application and among themselves; it's a social complex phenomena; it's a long learning process; and it is also related with the existence of network effects, which increases the switching costs to the customer.

Having all the required information available it is now possible to answer the Research Questions: (1) Are there characteristics in a Gamification strategy that create value for the end user? (2) Can brands and retailers attain a sustainable competitive advantage by incorporating Gamification in their CRM practice?

As for the first Research Question, there are some characteristics in a Gamification strategy that create value for the end-user. According to the survey, the most valued features are related to Game Mechanics: Being Challenged, Earn Badges and Rewards and Earn Points. More importantly is that the findings of this dissertation highly support **the need for a Meaningful Gamification**, a concept introduced in the State of the Art.

According to the survey analysis, consumers get more value from the Gamification if they perceived it as innovative, creative and with the presence of a clear storyline. Indeed, isolated, game mechanics and dynamics are not sufficient for consumers to show a clear positive attitude towards Gamification functionalities. In the study is also possible to conclude that the most important characteristic of a Gamification strategy is the perception of receiving real rewards by engaging in real competitions.

The Social Media Component of Gamification (i.e- constantly share of updates on SNS), that has been referred by some authors as one of the positive characteristics of Gamification (Section 2.2), is actually the one that consumers clearly show a negative attitude towards to, which supports the theory that the digital space is indeed overcrowded (Rao, 2012).

Finally, RQ2 can also be answered based on the analysis conducted in the fifth chapter. Gamification can be a source of sustained competitive advantage for consumers, due to the Tacit Knowledge about the gamers which can be obtained from the application provide consumers with valuable elements that were stated in Sections 4.2 and 4.3, such as receiving special and tailored offers, engaging in compelling competitions.

Firms must then focus on building and enhancing relevant distinctive capabilities (Meso and Smith, 2000). The true success of the implementation of Gamification strategy would rely on superior application design capabilities, better customer service and relationship management, tailored and personalized offers, and creation of compelling and rich challenges and competitions. These dimensions must be managed by brands and retailers in order to ensure the strategically

relevancy of Gamification. In order to offer more relevant offers to customers, companies must concentrate on further developing data mining skills. This will promote organizational learning that would then lead to continuous innovation and enable a sustained competitive advantage.

In the end, the strategic use of Gamification goes far beyond the mere attribution of points and badges.

7 FUTURE RESEARCH

This dissertation focuses on a technology that is still in its initial phases in the Technology Hype-Cycle. Even though many companies have embraced Gamification, there is still a long path before mainstream adoption. Moreover, it only focused in a specific application of Gamification – CRM in Retailing.

Having this in mind, future research work on Gamification is suggested:

- 1. Further data support to this study.** Portuguese people between the ages of 19-24, in its majority, compose the sample of the primary data collected in this dissertation. Even though this age segment is likely to be the target group for Gamified applications, it is a limitation of this study.
- 2. Gamification impact in other areas of retailer's value chain.** This dissertation was entirely focused on the impact of the different functionalities of a CRM strategy. The impact on other sections of the value chain was not approached, namely in R&D and Human Resources Management. The impact in this area might be worth studying.
- 3. Gamification potential in other industries.** Gamification is currently being used in other areas, namely in Education and Employee Motivation according to Bunchball and Badgeville. Some empirical study in other areas could be interesting in order to assess whether Gamification can have an impact in learning processes and in managing employees.

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APPENDICES

Appendice I – Survey: The value of Gamification

The value of Gamification

In the context of my Master's Dissertation from Católica-Lisbon School of Business and Economics, this survey aims to study the perceived value of Gamification for consumers. Gamification is the use of game design elements in non-game contexts. This concept will be better explained later on. This survey is anonymous and your data will only be used for this end. People usually take around 10 minutes to read carefully the questions and answer them. Thank you for your participation and I hope you have fun in the process.



Do you have a smartphone with a 3G data plan?

- Yes (1)
- No (2)

Do you have a smart tv? (Wikipedia: A smart TV device is either a television set with integrated Internet capabilities or a set-top box for television that offers more advanced computing ability and connectivity than a contemporary basic television set)

- Yes (1)
- No (2)

Answer If Do you have a smartphone with a 3G data plan? Yes Is Selected

Is your smartphone NFC-enabled? (NFC is a short-range radio communication technology that allows interactions between two devices and transforms your mobile phone into a wallet and can be used to accumulate coupons and to make payments).

- Yes (1)
- No (2)
- I don't know (3)

Answer If Do you have a smart tv? No Is Selected

Are you planning to buy a smart TV in the short term?

- Yes (1)
- No (2)

Answer If Do you have a smartphone? No Is Selected

Are you planning to buy a smartphone in the short term?

- Yes (1)
- No (2)

Do you usually play video games?

- Yes (1)
- No (2)

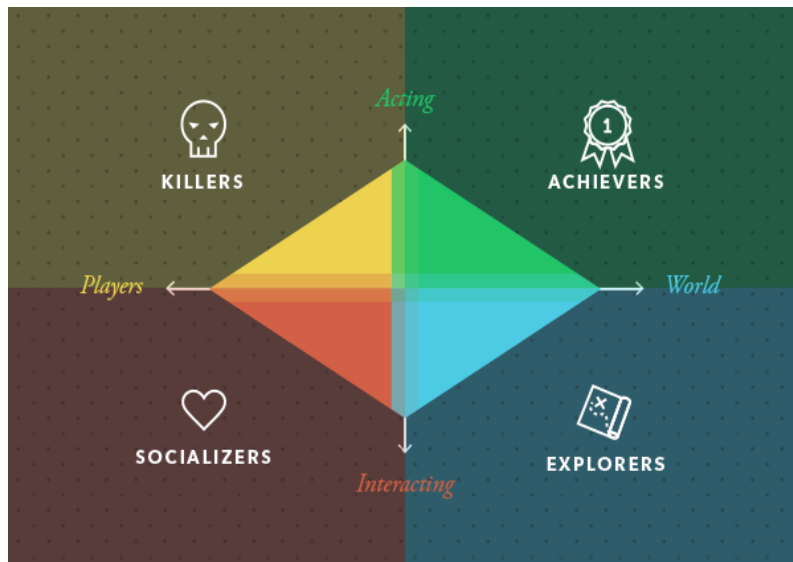
Which platforms do you mostly use?

- Online (1)
- Mobile (2)
- Console (3)
- PC (4)

How much time do you spent on average, per week, playing games?

- < 1 H (1)
- 1-5 H (2)
- 5-10 H (3)
- > 10 H (4)

What concept describes you best as a player? (Click on the right quadrant. You can also choose to locate closer to other quadrant)



Have you ever heard of the term 'Gamification'?

- Yes (1)
- No (2)

Gamification can be described as
“the use of game-design elements in non-game contexts”

The basic reasoning of using Gamification is to increase user activity and customer retention rates, by including fun and progression elements that we may find in real video-games.

HOW?
Points
Badges
Levels/ Missions
Leaderboards
Virtual Rewards



This is Foursquare. Foursquare is a web and mobile application that allows registered users to post their location at a venue ("check-in") and connect with friends. Check-in requires active user selection and points are awarded at check-in. You can earn badges by checking-in, share your accomplishments on Facebook and Twitter and even be crowned mayor of a venue.



Have you ever used Foursquare before?

- Yes (1)
- No (2)

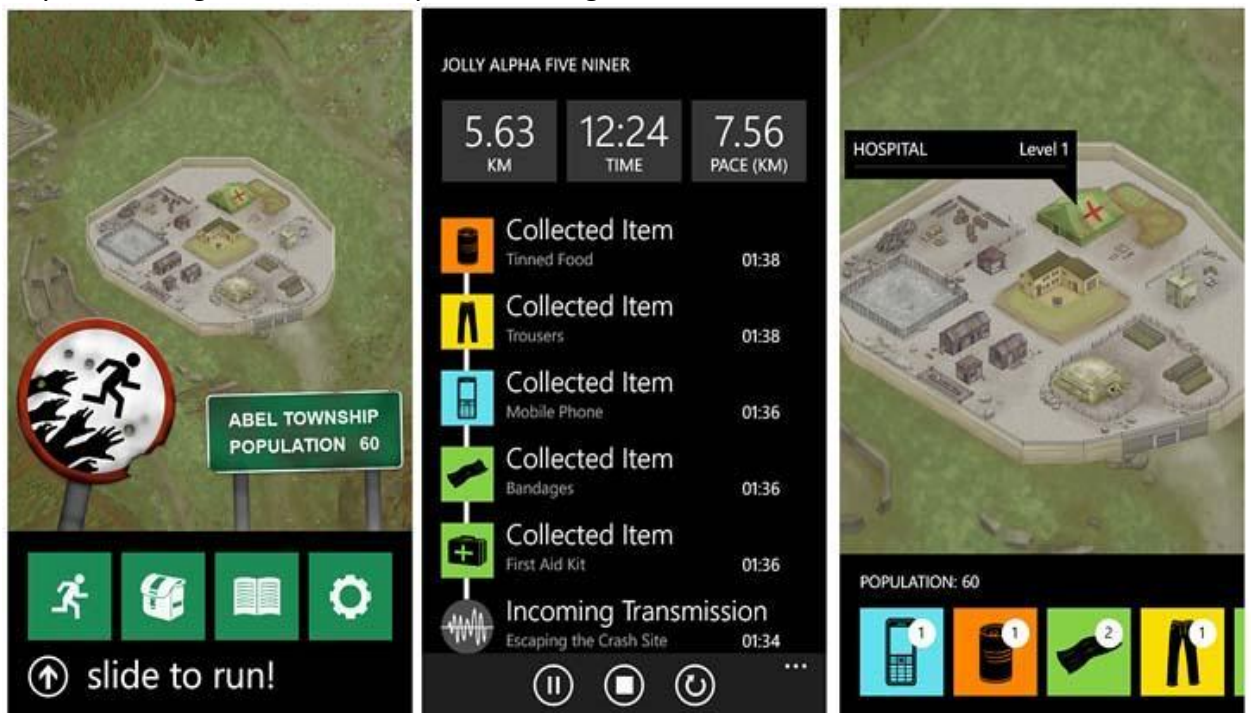
How would you measure the attractiveness of the following game mechanics when using such an application? (1- Not attractive; 5-Very Attractive)

- _____ Earning Points (1)
- _____ Earning Badges/ Trophies (2)
- _____ Earning virtual goods/ currency (3)
- _____ Being Challenged (4)
- _____ Being ranked in Leaderboards (5)

Rate the following reasons that would make you use such an application. 1- Not attractive; 5-Very Attractive)

- _____ Earn rewards (1)
- _____ Sense of status (2)
- _____ Sense of pride and achievement (3)
- _____ Opportunity for self-expression (4)
- _____ Engage in a Competition (5)
- _____ Helping Others (6)

Run Zombies, Run is a fitness application with a curious story line. You are being chased by Zombies and you hear voices of them approaching to push you to run faster! There are several missions and you can compete with your friends. You have access to all your running statistics while you are saving the world.



Please rank the perceived additional value you would get by the introduction of a real story-line (1- Very Low Additional Value and 9- Very High Additional Value)

- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 (7)
- 8 (8)
- 9 (9)

Would you prefer to use Run Zombies, Run or any application with a story line vs a similar application in the market with no story line?

- Yes (1)
- No (2)

Some brands are now using Gamified applications to increase brand loyalty and engagement. Samsung Nation aims to drive virtual participation and to motivate consumers and fans to generate content, share in their social networks, participate in Q&A forms, rate products, etc.

You're Now a Part of Samsung Nation



Welcome to the exciting new community where you are rewarded by simply exploring Samsung.com and discovering everything it has to offer. You're now free to earn points, unlock and collect badges, boost your ranking, see who's leading, and watch Samsung Nation evolve over time.

Look to the right to check out real-time activity, then dive into the site to see what you can uncover.

What's this?

Samsung Nation

Leaderboard My Rewards

Daily ▼

| | | | | | |
|---|--|---|--|--------------------------|------------|
| 1 | | 1 | | kenneth brown | 48,025 pts |
| 2 | | 2 | | darys rosario | 23,225 pts |
| 3 | | 3 | | audrey sherrill | 14,425 pts |
| 4 | | 4 | | corey meyer | 14,125 pts |
| 5 | | 5 | | nick sistasis | 13,325 pts |
| 6 | | 6 | | ben sanchez | 7,400 pts |
| 7 | | 7 | | clinton klingeman | --- |

How do I earn points?

What's this?

Activities

| | | | |
|--|---|--|----------------|
| | greg house leveled up to Novice | | 20 minutes ago |
| | ronald palma leveled up to Novice | | 20 minutes ago |
| | million michael unlocked the Player badge | | 20 minutes ago |
| | million michael unlocked the Early Adopter badge | | 20 minutes ago |
| | million michael leveled up to Novice | | 20 minutes ago |
| | christopher hendriks unlocked the Merit badge | | 20 minutes ago |
| | christopher hendriks unlocked the Night Owl badge | | 20 minutes ago |
| | deepak mehtani unlocked the Player badge | | 20 minutes ago |
| | deepak mehtani unlocked the Early Adopter badge | | 20 minutes ago |

Pause

How do I earn points?

As a user, in a 1-5 scale, what would attract you the most in such platform? (1- Not attractive, 5- Very attractive)

- _____ Receive personalized offers based on my activity (1)
- _____ Engage in challenges and competitions to win a desired product (2)
- _____ Receive a special discount to use on a complementary product (3)
- _____ Share all my accomplishments in Social Media (4)
- _____ Becoming a Brand Ambassador (5)
- _____ Being helped by other users (6)

If you could receive points, badges , improve my place in rankings, and have access to physical rewards, how likely are you to:

| | Very Unlikely (1) | Unlikely (2) | Likely (3) | Very Likely (4) |
|--|-----------------------|-----------------------|-----------------------|-----------------------|
| Sign up with my Social Networks' account (e.g. Facebook) (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Give access to my basic information (name, address, age, gender) (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Give access to my location data (GPS) (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Access friend's list and updates (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

You can earn points and badges, level up and increase positions in the rankings if you participate in the platform. How likely are you to:

| | Very Unlikely (1) | Unlikely (2) | Likely (3) | Very Likely (4) |
|--|-----------------------|-----------------------|-----------------------|-----------------------|
| Rate Products (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| See Videos (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Participate in Q&A (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Submit comments and reviews (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Like updates on Comapny's Social Media (5) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Share updates in your Social Networks (6) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Help other players - answering questions (7) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Would you be interested in using a gamified application that teaches you how to use a product and provide you interesting tips? Instead of having to read the manual instructions, you could have challenges and levels to go through when trying to make the most out of your product.

- Definitely will not (9)
- Probably will not (10)
- Don't know (11)
- Probably will (12)
- Definitely will (13)

SONY launched a challenge called Xperia Unleashed: thousands of tiny QR code-equipped robots in London and Manchester. Users had to look for the hidden robots and scan them with their phones. In return for you could get a chance to win amazing gifts, like a Sony Xperia. All the clues were given in Social Media.

From a 1-10 scale, how would you rate such campaign in terms of innovation and creativity?

- 0 (0)
- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 (7)
- 8 (8)
- 9 (9)
- 10 (10)

Would you be interested in participate in such campaign?

- Yes (1)
- No (2)

If you came across with such campaign, what would be your reactions?

- I would 'like' the campaign page (1)
- I would like the company's page (2)
- I would share in my Social Networks (eg- Facebook, Twitter, LinkedIn) (3)
- I would recommend the company to my friends (4)
- I would become more attentive to the company's official Social Media Channels (5)
- I would think about buying a company's product (6)
- I would think about switching from another competitor (7)

Gender

- Male (1)
- Female (2)

Age

- Under 18 (1)
- 18-25 (2)
- 25-29 (3)
- 30-49 (4)
- 50-64 (5)
- 65 and over (6)

Highest Level of Education

- Basic School (1)
- High School (2)
- Bachelor Degree (3)
- Master's Degree (4)
- PhD Degree (5)

Monthly Income (in €)

- Dependent (ex: still studying) (1)
- Under 500 (2)
- 500-750 (3)
- 750-900 (4)
- 900-1200 (5)
- 1200-1500 (6)
- 1500-2000 (7)
- 2000-3000 (8)
- 3000-5000 (9)
- Over 5000 (10)

Nationality



Appendice 2- SPSS Tables

Descriptive Statistics

Do you have a smartphone with a 3G data plan?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-----------|---------|---------------|--------------------|
| Valid | Yes | 145 | 75.9 | 75.9 | 75.9 |
| | No | 46 | 24.1 | 24.1 | 100.0 |
| | Total | 191 | 100.0 | 100.0 | |

Do you have a smart tv? (Wikipedia: A smart TV device is either a television set with integrated Int...

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--------|-----------|---------|---------------|--------------------|
| Valid | Yes | 69 | 36.1 | 36.3 | 36.3 |
| | No | 121 | 63.4 | 63.7 | 100.0 |
| | Total | 190 | 99.5 | 100.0 | |
| Missing | System | 1 | .5 | | |
| Total | | 191 | 100.0 | | |

Is your smartphone NFC-enabled? (NFC is a short-range radio communication technology that allows int...

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--------------|-----------|---------|---------------|--------------------|
| Valid | Yes | 39 | 20.4 | 27.1 | 27.1 |
| | No | 53 | 27.7 | 36.8 | 63.9 |
| | I don't know | 52 | 27.2 | 36.1 | 100.0 |
| | Total | 144 | 75.4 | 100.0 | |
| Missing | System | 47 | 24.6 | | |
| Total | | 191 | 100.0 | | |

Are you planning to buy a smart TV in the short term?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--------|-----------|---------|---------------|--------------------|
| Valid | Yes | 17 | 8.9 | 14.0 | 14.0 |
| | No | 104 | 54.5 | 86.0 | 100.0 |
| | Total | 121 | 63.4 | 100.0 | |
| Missing | System | 70 | 36.6 | | |
| Total | | 191 | 100.0 | | |

Are you planning to buy a smartphone in the short term?

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|----------------|-----------|---------|---------------|--------------------|
| Valid Yes | 23 | 12.0 | 50.0 | 50.0 |
| Valid No | 23 | 12.0 | 50.0 | 100.0 |
| Total | 46 | 24.1 | 100.0 | |
| Missing System | 145 | 75.9 | | |
| Total | 191 | 100.0 | | |

Platforms

| | N |
|--|-----|
| Which platforms do you mostly use?-Online | 99 |
| Which platforms do you mostly use?-Mobile | 98 |
| Which platforms do you mostly use?-Console | 57 |
| Which platforms do you mostly use?-PC | 110 |
| Valid N (listwise) | 14 |

How much time do you spent on average, per week, playing games?

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|--------------|-----------|---------|---------------|--------------------|
| Valid < 1 H | 93 | 48.7 | 48.7 | 48.7 |
| Valid 1-5 H | 60 | 31.4 | 31.4 | 80.1 |
| Valid 5-10 H | 23 | 12.0 | 12.0 | 92.1 |
| Valid > 10 H | 15 | 7.9 | 7.9 | 100.0 |
| Total | 191 | 100.0 | 100.0 | |

Have you ever heard of the term 'Gamification'?

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-----------|-----------|---------|---------------|--------------------|
| Valid Yes | 70 | 36.6 | 36.6 | 36.6 |
| Valid No | 121 | 63.4 | 63.4 | 100.0 |
| Total | 191 | 100.0 | 100.0 | |

Have you ever used Foursquare before?

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-----------|-----------|---------|---------------|--------------------|
| Valid Yes | 50 | 26.2 | 26.2 | 26.2 |
| Valid No | 141 | 73.8 | 73.8 | 100.0 |
| Total | 191 | 100.0 | 100.0 | |

How would you measure the attractiveness of the following game mechanics when using such an applicat...-Earning Points

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|------------|-----------|---------|---------------|--------------------|
| Valid 1.00 | 9 | 4.7 | 4.7 | 4.7 |
| 2.00 | 26 | 13.6 | 13.6 | 18.3 |
| 3.00 | 51 | 26.7 | 26.7 | 45.0 |
| 4.00 | 83 | 43.5 | 43.5 | 88.5 |
| 5.00 | 22 | 11.5 | 11.5 | 100.0 |
| Total | 191 | 100.0 | 100.0 | |

How would you measure the attractiveness of the following game mechanics when using such an applicat...-Earning Badges/ Trophies

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|------------|-----------|---------|---------------|--------------------|
| Valid 1.00 | 5 | 2.6 | 2.6 | 2.6 |
| 2.00 | 17 | 8.9 | 8.9 | 11.5 |
| 3.00 | 70 | 36.6 | 36.6 | 48.2 |
| 4.00 | 79 | 41.4 | 41.4 | 89.5 |
| 5.00 | 20 | 10.5 | 10.5 | 100.0 |
| Total | 191 | 100.0 | 100.0 | |

How would you measure the attractiveness of the following game mechanics when using such an applicat...-Earning virtual goods/ currency

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|------------|-----------|---------|---------------|--------------------|
| Valid 1.00 | 32 | 16.8 | 16.8 | 16.8 |
| 2.00 | 38 | 19.9 | 19.9 | 36.6 |
| 3.00 | 48 | 25.1 | 25.1 | 61.8 |
| 4.00 | 53 | 27.7 | 27.7 | 89.5 |
| 5.00 | 20 | 10.5 | 10.5 | 100.0 |
| Total | 191 | 100.0 | 100.0 | |

How would you measure the attractiveness of the following game mechanics when using such an applicat...-Being Challenged

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|------------|-----------|---------|---------------|--------------------|
| Valid 1.00 | 5 | 2.6 | 2.6 | 2.6 |
| 2.00 | 20 | 10.5 | 10.5 | 13.1 |
| 3.00 | 49 | 25.7 | 25.7 | 38.7 |
| 4.00 | 81 | 42.4 | 42.4 | 81.2 |
| 5.00 | 36 | 18.8 | 18.8 | 100.0 |

How would you measure the attractiveness of the following game mechanics when using such an applicat...-Being ranked in Leaderboards

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|------------|-----------|---------|---------------|--------------------|
| Valid 1.00 | 31 | 16.2 | 16.2 | 16.2 |
| 2.00 | 34 | 17.8 | 17.8 | 34.0 |
| 3.00 | 71 | 37.2 | 37.2 | 71.2 |
| 4.00 | 26 | 13.6 | 13.6 | 84.8 |
| 5.00 | 29 | 15.2 | 15.2 | 100.0 |
| Total | 191 | 100.0 | 100.0 | |

Rate the following reasons that would make you use such an application.-Earn rewards

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|------------|-----------|---------|---------------|--------------------|
| Valid 1.00 | 1 | .5 | .5 | .5 |
| 2.00 | 6 | 3.1 | 3.1 | 3.7 |
| 3.00 | 54 | 28.3 | 28.3 | 31.9 |
| 4.00 | 94 | 49.2 | 49.2 | 81.2 |
| 5.00 | 36 | 18.8 | 18.8 | 100.0 |
| Total | 191 | 100.0 | 100.0 | |

Rate the following reasons that would make you use such an application.-Sense of status

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|------------|-----------|---------|---------------|--------------------|
| Valid 1.00 | 31 | 16.2 | 16.2 | 16.2 |
| 2.00 | 35 | 18.3 | 18.3 | 34.6 |
| 3.00 | 73 | 38.2 | 38.2 | 72.8 |
| 4.00 | 46 | 24.1 | 24.1 | 96.9 |
| 5.00 | 6 | 3.1 | 3.1 | 100.0 |
| Total | 191 | 100.0 | 100.0 | |

Please rank the perceived additional value you would get by the introduction of a real story-line (1...

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------|---------|---------------|--------------------|
| Valid 1 | 8 | 4.2 | 4.2 | 4.2 |
| 2 | 9 | 4.7 | 4.7 | 8.9 |
| 3 | 7 | 3.7 | 3.7 | 12.6 |
| 4 | 8 | 4.2 | 4.2 | 16.8 |
| 5 | 14 | 7.3 | 7.3 | 24.1 |
| 6 | 27 | 14.1 | 14.1 | 38.2 |
| 7 | 46 | 24.1 | 24.1 | 62.3 |
| 8 | 37 | 19.4 | 19.4 | 81.7 |
| 9 | 35 | 18.3 | 18.3 | 100.0 |
| Total | 191 | 100.0 | 100.0 | |

Would you prefer to use Run Zombies, Run or any application with a story line vs a similar applicati...

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-----------|-----------|---------|---------------|--------------------|
| Valid Yes | 131 | 68.6 | 68.6 | 68.6 |
| No | 60 | 31.4 | 31.4 | 100.0 |
| Total | 191 | 100.0 | 100.0 | |

If you could receive points, badges , improve my place in rankings, and have access to physical rewa...-Sign up with my Social Networks' account (e.g. Facebook)

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------------------|-----------|---------|---------------|--------------------|
| Valid Very Unlikely | 27 | 14.1 | 14.1 | 14.1 |
| Unlikely | 49 | 25.7 | 25.7 | 39.8 |
| Likely | 76 | 39.8 | 39.8 | 79.6 |
| Very Likely | 39 | 20.4 | 20.4 | 100.0 |
| Total | 191 | 100.0 | 100.0 | |

If you could receive points, badges , improve my place in rankings, and have access to physical rewa...-Give access to my basic information (name, address, age, gender)

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------------|-----------|---------|---------------|--------------------|
| Very Unlikely | 23 | 12.0 | 12.0 | 12.0 |
| Unlikely | 36 | 18.8 | 18.8 | 30.9 |
| Valid Likely | 101 | 52.9 | 52.9 | 83.8 |
| Very Likely | 31 | 16.2 | 16.2 | 100.0 |
| Total | 191 | 100.0 | 100.0 | |

If you could receive points, badges , improve my place in rankings, and have access to physical rewa...-Give access to my location data (GPS)

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------------|-----------|---------|---------------|--------------------|
| Very Unlikely | 81 | 42.4 | 42.4 | 42.4 |
| Unlikely | 64 | 33.5 | 33.5 | 75.9 |
| Valid Likely | 36 | 18.8 | 18.8 | 94.8 |
| Very Likely | 10 | 5.2 | 5.2 | 100.0 |
| Total | 191 | 100.0 | 100.0 | |

If you could receive points, badges , improve my place in rankings, and have access to physical rewa...-Access friend's list and updates

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------------|-----------|---------|---------------|--------------------|
| Very Unlikely | 60 | 31.4 | 31.4 | 31.4 |
| Unlikely | 57 | 29.8 | 29.8 | 61.3 |
| Valid Likely | 63 | 33.0 | 33.0 | 94.2 |
| Very Likely | 11 | 5.8 | 5.8 | 100.0 |
| Total | 191 | 100.0 | 100.0 | |

Descriptive Statistics

| | N | Minimum | Maximum | Mean | Std. Deviation |
|--|-----|---------|---------|--------|----------------|
| As a user, in a 1-5 scale, what would attract you the most in such platform? (1- Not attractive, 1...-Receive personalized offers based on my activity | 191 | 1.00 | 5.00 | 3.7016 | .96788 |
| As a user, in a 1-5 scale, what would attract you the most in such platform? (1- Not attractive, 1...-Engage in challenges and competitions to win a desired product | 191 | 2.00 | 5.00 | 4.0681 | .74733 |
| As a user, in a 1-5 scale, what would attract you the most in such platform? (1- Not attractive, 1...-Receive a special discount to use on a complementary product | 191 | 1.00 | 5.00 | 3.9110 | .79963 |
| As a user, in a 1-5 scale, what would attract you the most in such platform? (1- Not attractive, 1...-Share all my accomplishments in Social Media | 191 | 1.00 | 5.00 | 1.9319 | 1.04155 |
| As a user, in a 1-5 scale, what would attract you the most in such platform? (1- Not attractive, 1...- Becoming a Brand Ambassador | 191 | 1.00 | 5.00 | 2.1780 | 1.20950 |
| As a user, in a 1-5 scale, what would attract you the most in such platform? (1- Not attractive, 1...-Being helped by other users | 191 | 1.00 | 5.00 | 2.2775 | 1.20152 |
| Valid N (listwise) | 191 | | | | |

Descriptive Statistics

| | N | Minimum | Maximum | Mean | Std. Deviation |
|--|-----|---------|---------|------|----------------|
| You can earn points and badges, level up and increase positions in the rankings if you participate i...-Rate Products | 191 | 1 | 4 | 2.68 | .917 |
| You can earn points and badges, level up and increase positions in the rankings if you participate i...-See Videos | 191 | 1 | 4 | 2.73 | .850 |
| You can earn points and badges, level up and increase positions in the rankings if you participate i...-Participate in Q&A | 191 | 1 | 4 | 2.40 | .846 |
| You can earn points and badges, level up and increase positions in the rankings if you participate i...-Submit comments and reviews | 191 | 1 | 4 | 2.63 | .854 |
| You can earn points and badges, level up and increase positions in the rankings if you participate i...-Like updates on Comapny's Social Media | 191 | 1 | 4 | 2.26 | .897 |
| You can earn points and badges, level up and increase positions in the rankings if you participate i...-Share updates in your Social Networks | 191 | 1 | 4 | 1.87 | .851 |
| You can earn points and badges, level up and increase positions in the rankings if you participate i...-Help other players - answering questions | 191 | 1 | 4 | 2.37 | .853 |
| Valid N (listwise) | 191 | | | | |

Descriptive Statistics

| | N | Minimum | Maximum | Mean | Std. Deviation |
|--|-----|---------|---------|--------|----------------|
| If you came across with such campaign, what would be your reactions?-I would 'like' the campaign page | 191 | 1.00 | 5.00 | 3.9005 | .93220 |
| If you came across with such campaign, what would be your reactions?-I would like the company's page | 191 | 1.00 | 5.00 | 3.4764 | .96148 |
| If you came across with such campaign, what would be your reactions?-I would share in my Social Networks (eg- Facebook, Twitter, LinkedIn) | 191 | 1.00 | 5.00 | 2.5445 | 1.11773 |
| If you came across with such campaign, what would be your reactions?-I would recomend the company to my friends | 191 | 1.00 | 5.00 | 3.4188 | .88998 |
| If you came across with such campaign, what would be your reactions?-I would become more attentive to the company's official Social Media Channels | 191 | 1.00 | 5.00 | 3.5602 | .91496 |
| If you came across with such campaign, what would be your reactions?-I would think about buying a company's product | 191 | 1.00 | 5.00 | 3.5026 | .85147 |
| If you came across with such campaign, what would be your reactions?-I would think about switching from another competitor | 191 | 1.00 | 5.00 | 2.3717 | 1.05782 |
| Valid N (listwise) | 191 | | | | |

From a 1-10 scale, how would you rate such campaign in terms of innovation and creativity?

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------|---------|---------------|--------------------|
| 1 | 3 | 1.6 | 1.6 | 1.6 |
| 2 | 1 | .5 | .5 | 2.1 |
| 3 | 4 | 2.1 | 2.1 | 4.2 |
| 4 | 6 | 3.1 | 3.1 | 7.3 |
| 5 | 13 | 6.8 | 6.8 | 14.1 |
| Valid 6 | 7 | 3.7 | 3.7 | 17.8 |
| 7 | 27 | 14.1 | 14.1 | 31.9 |
| 8 | 55 | 28.8 | 28.8 | 60.7 |
| 9 | 27 | 14.1 | 14.1 | 74.9 |
| 10 | 48 | 25.1 | 25.1 | 100.0 |
| Total | 191 | 100.0 | 100.0 | |

Would you be interested in participate in such campaign?

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-----------|-----------|---------|---------------|--------------------|
| Valid Yes | 130 | 68.1 | 68.1 | 68.1 |
| No | 61 | 31.9 | 31.9 | 100.0 |
| Total | 191 | 100.0 | 100.0 | |

Compare Mean Analysis

| How much time do you spent on average, per week, playing games? | How would you measure the attractiveness of the following game mechanics when using such an applicat...-Earning Points | How would you measure the attractiveness of the following game mechanics when using such an applicat...-Earning Badges/Trophies | How would you measure the attractiveness of the following game mechanics when using such an applicat...-Earning virtual goods/currency | How would you measure the attractiveness of the following game mechanics when using such an applicat...-Being Challenged | How would you measure the attractiveness of the following game mechanics when using such an applicat...-Being ranked in Leaderboards | Rate the following reasons that you use such an application...-Earn rewards | Rate the following reasons that you use such an application...-Sense of status | Rate the following reasons that you use such an application...-Sense of pride and achievement | Rate the following reasons that you use such an application...-Opportunity for self-expression | Rate the following reasons that you use such an application...-Engage in a Competition | Rate the following reasons that you use such an application...-Helping Others |
|---|--|---|--|--|--|---|--|---|--|--|---|
| < 1 H | Mean 3.4194 N 93 | Mean 3.3763 N 93 | Mean 2.7957 N 93 | Mean 3.4731 N 93 | Mean 2.8280 N 93 | Mean 3.7634 N 93 | Mean 2.8387 N 93 | Mean 3.4194 N 93 | Mean 3.1290 N 93 | Mean 2.9677 N 93 | Mean 2.6774 N 93 |
| 1-5 H | Mean 3.4500 N 60 | Mean 3.4667 N 60 | Mean 3.0000 N 60 | Mean 3.8000 N 60 | Mean 2.8500 N 60 | Mean 3.8667 N 60 | Mean 2.7167 N 60 | Mean 3.3833 N 60 | Mean 2.7667 N 60 | Mean 3.3000 N 60 | Mean 2.6667 N 60 |
| 5-10 H | Mean 3.3478 N 23 | Mean 3.6522 N 23 | Mean 3.1739 N 23 | Mean 3.6957 N 23 | Mean 3.2174 N 23 | Mean 3.8696 N 23 | Mean 2.9130 N 23 | Mean 3.3043 N 23 | Mean 2.6957 N 23 | Mean 3.2609 N 23 | Mean 3.0870 N 23 |
| > 10 H | Mean 3.6000 N 15 | Mean 3.9333 N 15 | Mean 3.4000 N 15 | Mean 4.0000 N 15 | Mean 3.5333 N 15 | Mean 4.0000 N 15 | Mean 2.6667 N 15 | Mean 3.7333 N 15 | Mean 3.4667 N 15 | Mean 3.7333 N 15 | Mean 2.8667 N 15 |
| Total | Mean 3.4346 N 191 | Mean 3.4817 N 191 | Mean 2.9529 N 191 | Mean 3.6440 N 191 | Mean 2.9372 N 191 | Mean 3.8272 N 191 | Mean 2.7958 N 191 | Mean 3.4188 N 191 | Mean 2.9895 N 191 | Mean 3.1675 N 191 | Mean 2.7382 N 191 |
| | Std. Deviation 1.01808 | Std. Deviation .89350 | Std. Deviation 1.25358 | Std. Deviation .98886 | Std. Deviation 1.25498 | Std. Deviation .78572 | Std. Deviation 1.07859 | Std. Deviation .96380 | Std. Deviation 1.12853 | Std. Deviation 1.09698 | Std. Deviation 1.25008 |

| Age | How would you measure the attractiveness of the following game mechanics when using such an applicat...-Earning Points | How would you measure the attractiveness of the following game mechanics when using such an applicat...-Earning Badges/Trophies | How would you measure the attractiveness of the following game mechanics when using such an applicat...-Earning virtual goods/currency | How would you measure the attractiveness of the following game mechanics when using such an applicat...-Being Challenged | How would you measure the attractiveness of the following game mechanics when using such an applicat...-Being ranked in Leaderboards | Rate the following reasons that you use such an application...-Earn rewards | Rate the following reasons that you use such an application...-Sense of status | Rate the following reasons that you use such an application...-Sense of pride and achievement | Rate the following reasons that you use such an application...-Opportunity for self-expression | Rate the following reasons that you use such an application...-Engage in a Competition | Rate the following reasons that you use such an application...-Helping Others |
|----------|--|---|--|--|--|---|--|---|--|--|---|
| Under 18 | Mean 3.5000 N 2 | Mean 3.5000 N 2 | Mean 3.0000 N 2 | Mean 4.0000 N 2 | Mean 4.0000 N 2 | Mean 3.5000 N 2 | Mean 3.5000 N 2 | Mean 3.5000 N 2 | Mean 4.5000 N 2 | Mean 3.0000 N 2 | Mean 2.5000 N 2 |
| 18-25 | Mean 3.4538 N 130 | Mean 3.5154 N 130 | Mean 2.9615 N 130 | Mean 3.7077 N 130 | Mean 2.9769 N 130 | Mean 3.8615 N 130 | Mean 2.7308 N 130 | Mean 3.3692 N 130 | Mean 2.8923 N 130 | Mean 3.1462 N 130 | Mean 2.6000 N 130 |
| 25-29 | Mean 3.5263 N 38 | Mean 3.4474 N 38 | Mean 2.9737 N 38 | Mean 3.4737 N 38 | Mean 3.0000 N 38 | Mean 3.8684 N 38 | Mean 3.0789 N 38 | Mean 3.5526 N 38 | Mean 3.3158 N 38 | Mean 3.3158 N 38 | Mean 2.9737 N 38 |
| 30-49 | Mean 3.3158 N 19 | Mean 3.3158 N 19 | Mean 2.7895 N 19 | Mean 3.6316 N 19 | Mean 2.5263 N 19 | Mean 3.5789 N 19 | Mean 2.7895 N 19 | Mean 3.5789 N 19 | Mean 2.8947 N 19 | Mean 3.1053 N 19 | Mean 3.1053 N 19 |
| 50-64 | Mean 1.00292 N 2 | Mean .94591 N 2 | Mean 1.47494 N 2 | Mean 1.01163 N 2 | Mean 1.38918 N 2 | Mean .69248 N 2 | Mean .91766 N 2 | Mean .69248 N 2 | Mean 1.04853 N 2 | Mean 1.04853 N 2 | Mean 1.37011 N 2 |
| Total | Mean 3.4346 N 191 | Mean 3.4817 N 191 | Mean 2.9529 N 191 | Mean 3.6440 N 191 | Mean 2.9372 N 191 | Mean 3.8272 N 191 | Mean 2.7958 N 191 | Mean 3.4188 N 191 | Mean 2.9895 N 191 | Mean 3.1675 N 191 | Mean 2.7382 N 191 |
| | Std. Deviation 1.01808 | Std. Deviation .89350 | Std. Deviation 1.25358 | Std. Deviation .98886 | Std. Deviation 1.25498 | Std. Deviation .78572 | Std. Deviation 1.07859 | Std. Deviation .96380 | Std. Deviation 1.12853 | Std. Deviation 1.09698 | Std. Deviation 1.25008 |

Report

Please rank the perceived additional value you would get by the introduction of a real story-line (1...

| How much time do you spent on average, per week, playing games? | Mean | N | Std. Deviation |
|---|------|-----|----------------|
| < 1 H | 5.80 | 93 | 2.301 |
| 1-5 H | 6.62 | 60 | 2.067 |
| 5-10 H | 8.04 | 23 | .928 |
| > 10 H | 8.20 | 15 | .775 |
| Total | 6.51 | 191 | 2.191 |

| Report | | | | | |
|------------|----------------|--|--|---|---|
| | | If you could receive points, badges , improve my place in rankings, and have access to physical rewa...-Sign up with my Social Networks' account (e.g. Facebook) | If you could receive points, badges , improve my place in rankings, and have access to physical rewa...-Give access to my basic information (name, address, age, gender) | If you could receive points, badges , improve my place in rankings, and have access to physical rewa...-Give access to my location data (GPS) | If you could receive points, badges , improve my place in rankings, and have access to physical rewa...- Access friend's list and updates |
| Age | | | | | |
| Under 18 | Mean | 4.00 | 4.00 | 3.50 | 4.00 |
| | N | 2 | 2 | 2 | 2 |
| | Std. Deviation | .000 | .000 | .707 | .000 |
| 18-25 | Mean | 2.76 | 2.89 | 1.84 | 2.12 |
| | N | 130 | 130 | 130 | 130 |
| | Std. Deviation | .913 | .760 | .815 | .924 |
| 25-29 | Mean | 2.47 | 2.45 | 2.05 | 2.18 |
| | N | 38 | 38 | 38 | 38 |
| | Std. Deviation | 1.033 | .921 | 1.064 | .896 |
| 30-49 | Mean | 2.37 | 2.21 | 1.63 | 2.00 |
| | N | 19 | 19 | 19 | 19 |
| | Std. Deviation | .955 | 1.084 | .955 | .882 |
| 50-64 | Mean | 1.50 | 1.50 | 1.00 | 1.00 |
| | N | 2 | 2 | 2 | 2 |
| | Std. Deviation | .707 | .707 | .000 | .000 |
| Total | Mean | 2.66 | 2.73 | 1.87 | 2.13 |
| | N | 191 | 191 | 191 | 191 |
| | Std. Deviation | .958 | .875 | .899 | .928 |

ANOVA Analysis – Most Relevant Tables

ANOVA – Group Profiles

Please rank the perceived additional value you would get by the introduction of a real story-line (1...

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|-----|-------------|--------|------|
| Between Groups | 145.059 | 3 | 48.353 | 11.794 | .000 |
| Within Groups | 766.658 | 187 | 4.100 | | |
| Total | 911.717 | 190 | | | |

ANOVA – Age Echelons

Would you be interested in participate in such campaign?

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|-----|-------------|-------|------|
| Between Groups | 2.273 | 4 | .568 | 2.694 | .032 |
| Within Groups | 39.245 | 186 | .211 | | |
| Total | 41.518 | 190 | | | |

Correlation Analysis: Pearson – Most Relevant Tables

Correlations

| | | What concept describes you best as a player? (Click on the right quadrant. You can also choose to lo...- Region-Socializer | If you came across with such campaign, what would be your reactions?-I would become more attentive to the company's official Social Media Channels |
|--|---------------------|--|--|
| What concept describes you best as a player? | Pearson Correlation | 1 | .172* |
| Region-Socializer | Sig. (2-tailed) | | .017 |
| | N | 191 | 191 |

Correlations

| | | If you came across with such campaign, what would be your reactions?-I would 'like' the campaign page | If you came across with such campaign, what would be your reactions?-I would like the company's page | If you came across with such campaign, what would be your reactions?-I would share in my Social Networks (eg- Facebook, Twitter, LinkedIn) | If you came across with such campaign, what would be your reactions?-I would recomend the company to my friends |
|---|---|---|--|--|---|
| If you came across with such campaign, what would be your reactions?-I would 'like' the campaign page | Pearson Correlation Sig. (2-tailed) N | 1 .000 191 | .693** .000 191 | .391** .000 191 | .418** .000 191 |
| If you came across with such campaign, what would be your reactions?-I would like the company's page | Pearson Correlation Sig. (2-tailed) N | .693** .000 191 | 1 .000 191 | .423** .000 191 | .411** .000 191 |
| If you came across with such campaign, what would be your reactions?-I would share in my Social Networks (eg- Facebook, Twitter, ... | Pearson Correlation Sig. (2-tailed) N | .391** .000 191 | .423** .000 191 | 1 .000 191 | .404** .000 191 |
| If you came across with such campaign, what would be your reactions?-I would recomend the company to my friends | Pearson Correlation Sig. (2-tailed) N | .418** .000 191 | .411** .000 191 | .404** .000 191 | 1 .000 191 |
| If you came across with such campaign, what would be your reactions?-I would become more attentive to the company's official Social Media ... | Pearson Correlation Sig. (2-tailed) N | .350** .000 191 | .383** .000 191 | .292** .000 191 | .460** .000 191 |
| If you came across with such campaign, what would be your reactions?-I would think about buying a company's product | Pearson Correlation Sig. (2-tailed) N | .242** .001 191 | .317** .000 191 | .314** .000 191 | .332** .000 191 |
| If you came across with such campaign, what would be your reactions?-I would think about switching from another competitor | Pearson Correlation Sig. (2-tailed) N | .187** .010 191 | .223** .002 191 | .273** .000 191 | .236** .001 191 |

Correlations

| | | If you came across with such campaign, what would be your reactions?-I would become more attentive to the company's official Social Media Channels | If you came across with such campaign, what would be your reactions?-I would think about buying a company's product | If you came across with such campaign, what would be your reactions?-I would think about switching from another competitor |
|---|---|--|---|--|
| If you came across with such campaign, what would be your reactions?-I would 'like' the campaign page | Pearson Correlation Sig. (2-tailed) N | .350** .000 191 | .242** .001 191 | .187** .010 191 |
| If you came across with such campaign, what would be your reactions?-I would like the company's page | Pearson Correlation Sig. (2-tailed) N | .383** .000 191 | .317** .000 191 | .223** .002 191 |
| If you came across with such campaign, what would be your reactions?-I would share in my Social Networks (eg- Facebook, Twitter, ... | Pearson Correlation Sig. (2-tailed) N | .292** .000 191 | .314** .000 191 | .273** .000 191 |
| If you came across with such campaign, what would be your reactions?-I would recomend the company to my friends | Pearson Correlation Sig. (2-tailed) N | .460** .000 191 | .332** .000 191 | .236** .001 191 |
| If you came across with such campaign, what would be your reactions?-I would become more attentive to the company's official Social Media ... | Pearson Correlation Sig. (2-tailed) N | 1 .000 191 | .488** .000 191 | .338** .000 191 |
| If you came across with such campaign, what would be your reactions?-I would think about buying a company's product | Pearson Correlation Sig. (2-tailed) N | .488** .000 191 | 1 .000 191 | .393** .000 191 |
| If you came across with such campaign, what would be your reactions?-I would think about switching from another competitor | Pearson Correlation Sig. (2-tailed) N | .338** .000 191 | .393** .000 191 | 1 .000 191 |

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