UNIVERSIDADE CATÓLICA PORTUGUESA

Advertising business model strategy to increase consumers' brand recognition

An exploratory study testing the benefits of a quiz structure, applying incentives and targeting ads

by

Manuel Francisco Carrapatoso Garcia Ribeiro

Católica Porto Business School

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Final Assignment in the form of Dissertation presented to the Universidade Católica Portuguesa to obtain the Master Degree in Management

by

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"The people who are crazy enough to think they can change the world are the ones who do."

Steve Jobs

Resumo

Atualmente, existe uma saturação do mercado publicitário devido aos novos meios de baixo custo. A sociedade tem acesso a ferramentas para ignorar ou evitar publicidade, nomeadamente, bloquear anúncios na *internet*, e passar à frente anúncios na TV.

O principal objetivo deste projeto é a criação de estratégias publicitárias com o intuito de aumentar a atenção dos consumidores e, consequentemente, o reconhecimento da marca. Este modelo foi construído de forma a testar, os benefícios de uma estrutura *quiz*, incentivos e anúncios com *targeting*, de acordo com género, idade e ocupação. O presente trabalho é, de natureza descritiva e, quanto à profundidade, exploratório. Procura-se um primeiro conhecimento empírico da aceitação do modelo imaginado, através dos dados recolhidos que identificam caraterísticas e dimensões da problemática, oferecendo, no final, uma visão mais completa e clara. O desenho metodológico incluiu um simulador de *quiz*, associado a um inquérito por questionário, capaz de mostrar anúncios publicitários para testar a atenção de 160 participantes, e um inquérito, fundamentado na Teoria de Comportamento Planeado, para recolher a sua opinião. Após um mês, um novo questionário foi aplicado com o objetivo de avaliar o reconhecimento da marca pelos consumidores. Através do desempenho dos participantes, este estudo concluiu que a estrutura de *quiz* tem influência positiva na atenção e no reconhecimento da marca. Os participantes demostraram uma atitude positiva face à experiência, o que é promissor para a criação de um modelo de negócio com base nesta estratégia de publicidade. Efetivamente destacaram que seria mais fácil a sua aceitação, caso se implementasse em *smartphones* e se se usasse incentivos.

Palavras-chave: Publicidade, atenção, reconhecimento da marca, *quiz*, incentivos, anúncios com *targeting*.

Abstract

Advertising has now cheap methods to promote products which are leading to market saturation. Nowadays, society has tools to ignore or avoid advertising, giving consumers the ability to block ads from the internet, and fast-forwarding commercials in TV.

The main goal for this project was to create a business model strategy to increase consumers' attention and consequently, brand recognition. This model was constructed to test the benefits of strategies such the implementation of a quiz structure, incentives and targeting ads, according to gender, age and occupation

This research has a descriptive nature and follows and presents an exploratory study, using quantitative instruments to collect data. These instruments consisted in a quiz simulator, associated to a questionnaire, showing commercial videos, in order to test users' attention, along with a survey, grounded in the Theory of Planned Behavior, to assess participants' opinion. After one month, another questionnaire tested participants' memory, with the goal of assessing consumers' brand recognition. Results evaluated participants' performances, influenced by each strategy, individually and combined.

From participants' performances, this research concluded that a quiz structure helps users focus on the ad and improves their brand recognition. Furthermore, incentives and targeted ads have different influence over each demographic variable, and behave different when combined with each other. From feedback, participants demonstrated a positive attitude towards the business model and highlighted that this model would be more easily accepted, implementing it in smartphones and using a reward system along with targeted ads.

Keywords: advertising, attention, brand recognition, quiz, incentives, targeting ads.

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Glossary

Ad – Advertisement

AIDA – Attention - Interest - Desire – Action

CS – College Students

CTRs – click-through rates

e-commerce – Electronic Commerce

e-coupons – Electronic coupons

GPS – Global Position System

HS – High School Students

IT – Information Technology

KCC - Korea Communications Commission

KFC – Kentucky Fry Chicken

M-Commerce – Mobile Commerce

NGI - no game with interest

NGWI - no game without interest

NS – Non-Students

P&G – Procter and Gamble

PC – Personal Computer

PCB – Perceived Behavior Control

PI - PRIZE QUIZ with interest

PWI - PRIZE QUIZ without interest

QI - QUIZ with interest

QWI - QUIZ without interest

SMS – Short Message System

U.S – United States

WWW – World Wide Web

Introduction

1. Background Theme

Advertising has always been a strong industry, throughout every century, and, nowadays, is not different. Advertising is a type of marketing communication, responsible for promoting a product or service. However, traditional advertising methods already reached a mature state, leading to industry stagnation.

Advertising has become easy and cheap to produce and share, which led to a high market saturation, and more difficulty for companies to highlight their ads from the rest. In other words, consumers are now facing too many ads in their daily routine, which is driving them to ignore most of them or even to block or run away. With this, new emergent markets are rising, to fight this issue. Users nowadays have several tools to avoid ads, as for instance Adblock, to block ads on the internet, or TiVo, a TV channel box with abilities to choose what show users want to watch and with the ability to fast-forward commercials. Advertising firms need to find solutions to fight this new strategies in order to still be able to reach out their consumers This research, studies a new strategy to reach consumers attention, offering presenting ads through a gaming structure, offering them incentives to watch ads and only showing them ads which they would be interesting in.

2. Objectives

The study has the goal to address the question "How does a quiz format, incentives and targeted commercials affect users' attention and brand recognition?" In other words the main objective of this study was to study how variables such as a quiz structure, incentives and targeted ads would influence users focus on commercials to enhance their memorability and consequently their brand recognition.

3. Research Methodology

This research was conducted following a quantitative paradigm, of a descriptive nature, using as collecting instruments, a quiz simulator based on a questionnaire, to test participants' attention, one questionnaire, grounded in the Theory of Planned Behavior, to test participants' brand recognition and one survey, to assess participants' opinion. The study was designed in a continuous logic structure of collecting, compiling, analyzing and presenting results.

This was an exploratory research, which traced as its main goal, to understand which research design was best to conduct, to better comprehend this problem not fully researched yet. Due to the lack of depth of this particular type of research, it is important to highlight, that this study was not meant to draw absolute conclusions, but to find reasons to conduct future researches in this direction.

4. Work Structure

The present study was divided in six chapters, in order to present all information in a structured and logical process.

The first chapter tells the story of the evolution of mobile advertising, explaining its roots since it's the traditional way until nowadays techniques and problems. The second chapter explains the concepts of the three strategies, tested in the experiment, incentives, targeted ads and gamification. Chapter three shows the groundings of this works' methods and procedures. In chapter four all methodologies are explained and all tools and procedures are demonstrated. Chapter five has the purpose of presenting all meaningful results found after compiling all data collected. In the end, the main conclusions of the outcome of the data collected are exposed, limitations are explained and suggestions for further research on the topic are pointed out.

1. Advertising Evolution

1.1.Digital and Social

1.1.1. **Digital**

The world is always in constant evolution and, nowadays, there are two very different ways businesses are conducted, analog and digital.

Throughout the analog approach, there is a sense of trust, and communication is more interpersonal (Zimmermann, 2011). Connection between organizations and consumers is what propels the economy and evolution. This connection gets stronger amongst all business parties, when business activities are conducted "the analog way. An analog approach is the key factor of business transactions. Human relations between employees, owners, customers and stakeholders are vital to success, and take time to build (Wheeler and Lanza, 2014). However, digital technologies changed the way firms and consumers interacted with one and other (Susarla, Oh, and Tan, 2012).

Information Technology (IT) is a new approach, and, it is equally important and necessary. In ancient times, IT strategy was just at a functional-level strategy, in order to be aligned with the firms' business strategy (Henderson and Venkatraman, 1993). Nonetheless, digital devices came to life. Nowadays, companies can be completely digital and firms, that are not embracing technology, are struggling to keep up. The speed of new technology is making tech firms acquire specific qualities appreciated in our society. Their growth has become alarming to "classic companies". The digital way is a new approach, to sell communicate and distribute products. It is non-stop 27/7, cold and productive and usually means more quantity and less quality. The traditional way can be more affective and it develops relationships with the consumers. It uses its

human-touch to reach out and conquer their loyalty. However, these two forces can be connected and work with each other (Wheeler and Lanza, 2014). More and more digital and analog methods are present in everyones' lives. They are both important, as each one brings something valuable for consumers' experience. For instance, a study on shoppers from UK and US, with ages from 20 to 40, found that 65% of UK, and 55% of US subjects, first go online to search for products, then go into a physical store to try out the product they have seen on the website, and in the end, they buy it online. This new shopping method is increasing its popularity and has already a term to describe it, "Show-rooming". The study also found, roughly one-third compare product in-store prices, using their mobile device, before making a decision to purchase a product (Seth, 2014).

1.1.2. **Social Media**

Consumers now have a much more important role in a firms' marketing process. Firms rely part of the design experience to their consumers, by including them in products' features and design processes (Berthon, Pitt, McCarthy, and Kates, 2007). From Schmitt (2012) point of view, as consumers are part of the marketing machine, they should not be treated as passive information recipients, but as active participants. Consumers are behaving as co-creators for most firms' communication strategy. Marketers have a new role. Their job is to drum attention through engagement and not only reaching out. Online social marketing is executed in all social networks, where all consumers own their virtual space. Facebook, Twitter, LinkedIn are the most well-known social platforms and should be dealt together, as a combined tool of communication. Most companies treat social networks as individual platforms and normally do not consider them as part of the marketing machine.

More and more, social media is blending with traditional media (Hanna, Rohm, and Crittenden, 2011). Social media advertising, delivers an ongoing direct line of interaction, where firms and consumers can share thoughts, ideas, feelings and emotions, throughout the day. This endless connection, is what builds a strong relationship consumer-brand, and constructs a firms' history, where the consumer is not just a mere buyer, but a part of the "building" and an endless fount of crucial feedback (Murdough, 2009). From these bullet points, consumers build their memories, happy or sad, and develop opinions, perceptions, images and experiences (Keller, 2009). According to Beck (2007), social media has an influential effect on how communications are performed, not only in an individuals' personal life but also in his professional life. Social networks did not change completely the way how employees and the organization communicate. However, new media applications, such as email, forums and chat apps, transfigured the way communications are chained. Pathak (2015) defend social networks can also have negative effects on a working environment, as they can emerge risks for firms' network security, network performance, bandwidth capacity, information leaks and privacy. Although, they assert companies should enable access to certain social websites, in order to increase workers' productivity. This level of access can establish a greater level of trust between workers from all hierarchies. Productivity comes to how much an employee produces and how well can he produce a given resource (Bernolak, 1997). Employees, who use social networks, have a 9% increase in productivity, as this applications help individuals be more socially accepted and overall better persons in the workplace. Employees, connected through social networks, develop interacting skills and become better at solving problems within the firm (Pathak, 2015).

Chui et al. (2012) study reveals, social marketing can increase enterprises workers' productivity, up to 20%-25%, in activities such as reading and answering emails, search/gather information and intra/intercommunications. The study affirms only 72%

of the companies operate these social capabilities and only a small percentage uses them in depth. The institute also states, most of the powerful social tools are still to be explored, and will have an important role in communications, sharing information, and cooperation with other firms (Chui et al., 2012).

The world still suffers from lack of knowledge, when it comes on how to engage consumers in a creative way, to power their attributes. The strategy is still learning from consumers and let them decide firms' brand engagement process (Keller, 2009). Even though it is still not at its full potential, firms are increasingly betting on this type of promotional communication. In 2013, firms spent $4.1 billion in ads through social media. This number was expected to increase to $5 billion in the following year (eMarketer 2013). eMarketer (2013), also stated, a majority of marketers already saw social marketing with good eyes. These last few years, there has been an incredible change, how firms communicate and how social marketing was embraced as a mean to engage consumers. Social media advertising was increased throughout the globe, with an increase of 56.2% (eMarketer, 2005). In a Social Media Industry Report, Stelzner (2013) stated 86% of marketers believed in social media as an important channel to communicate with users and potential consumers. Also they stated this type of media was also beneficial, for branding, product research, customer relationship management, customer service and sales promotions. Two years later, the same Social Media Industry Report, Stelzner (2015) states 66% of marketers claimed they will enhance social media in the future for better performance. The study also reveals the most important social platforms for marketers are Facebook and LinkedIn (52% and 21%, respectively). Opposed to the idea, social media platforms are just a virtual space to place photos and post status updates, this networks have unique characteristics, for efficiently targeting customers, flowing information, and for intra-organization communications, like for instance employing best practices to Employees (Pathak, 2015). This type of media sources of engagement, are transforming society daily routine behavior. Consumers are

participating in an array of activities online, where they share content, news, opinions and review events and products. This type of media sources, are transforming society daily routines, and with this behavior changes, firms are also adopting these virtual spaces to communicate with their consumers, or their potential buyers. Murdough (2009) believes social media has an important role, when it comes to advertisement for firms. Furthermore, he believes this role is increasing, which indicates sharing and communication, through social platforms, is becoming one of the main channels of advertising for companies. Marketers can take advantage of social platforms by, using them for paid advertising displays, building a brand persona, engaging with customers and publishing branded content. Even though consumers' role in firms' social media strategy had become more important over the years, Hutton and Fosdick (2011) studies, defend another perspective. They mention, consumers' top three activities in social media platforms are naturally passive. These activities mainly involve content consumption and represent most of time spent on social media. Another important factor that may result in less engagement from consumers is the interpersonal aspect, meaning, consumers' only will engage with a brand that helps them build a positive self-image online (Schau and Gilly, 2003). This type of engagement has its consequences and they can be either good or bad (Mangold and Faulds, 2009). These types of issues are important to marketers, as they must build their brand strategy according to these behaviors, in order to augment purchase desire. Huang and Mitchell (2013) ascertained, consumers may develop negative emotions, if they feel a brand is not following the same values as them, or that it is creating a one-sided way relation where it is not respecting their wishes and desires. Even though, some scholars might find social networking to be less relevant than others, it is imperative to note that these virtual worlds changed the way people interact with each other, thereby made firms adopt them to advertise their products, as well.

1.2. Advertising

1.2.1. **Marketing**

Marketing is a wide concept and it was mentioned by Keith's article (1960), as a process in constant evolution, which gives organizations stronger entities (Keith, 1960). Kotler and Zaltman (1971) corroborated the same idea by defining marketing as methods and functions accounted for understanding costumers, determining what their needs are and how to satisfy them. One important activity inside the concept, is Advertising, most commonly interpreted as a synonym. While Marketing consists in understanding consumers' needs, Advertising is one of the activities used to present the products to fulfill consumers' needs. This two concepts are abruptly different, being "one inside the other" (Bennett and Cooper, 1981).

1.2.2. **Advertising definition**

Armstrong and Kotler (2000) established the definition of Advertising as, "any paid form of non-personal presentation and promotion of ideas, goods, or services by an identified sponsor" (Armstrong and Kotler, 2000). Leo Burnett, a Marketing Guru, compared it to "selling corn flakes to people who are eating Cheerios", while Marshall McLuhan set as "the cave art of the twentieth century". Daniel Starch resumed it as "selling in print", and named it "the simplest definition of advertising", referring to an ancient quote, from 1904, when John E. Kennedy defined advertising as "salesmanship in print". Of course, this definition was related to the old media where "print" was the primary channel of communication (Richards, 2002). Scholars brought a broad definition for an equally broad concept, which led to distinct interpretations. .

According to (Schultz, 1995), when consumers think of the term advertising, they first thoughts are commercials, promotional activities, from sponsorships to telemarketing. However academics and industry professionals, are more meticulous and don't consider all promotional efforts as advertising (Rust and Oliver, 1994). Some consider certain activities as other types of marketing, such as sales promotions, promotional products, direct marketing or public relations. Even though professionals and scholars agree on this matter, some activities like word of mouth or product placement in movies are still a two activities that present doubt on whether they are or not a form of advertising (Richards, 2002).

1.2.3. **Advertising research models**

The first formal well known model for advertising was AIDA (Attention - Interest - Desire – Action), designed by E. St. Elmo Lewis, in 1898 (Strong, 1925). Lavidge and Steiner (1961) called this type of models "hierarchy of effects". This type of models has been highlighted to explain the advertising phenomena. Furthermore, other studies have been conducted in order to understand the parameters behind a successful advertising campaign. For instance, the effects of frequency of exposure and scheduling were studied by Fletcher (1980), market response was studied by Clarke (1976) and Assmus et al. (1984). Throughout the years, advertising business has been suffering major mutations, due to technology breakthroughs (Richards and Curran, 2002). Even though the world of advertising, changed to a more interactive way, traditional advertising did not disappear, it just mutated and adapted to the circumstances.

1.2.4. **Advertising evolution**

The world evolved, and advertising, that once was only for powerful companies, is now for everyone. This change is due to new technologies advancement, such as internet, smartphones or social media. As previously said, social media altered the way people connect to the world and facilitated communications. Digital media has transformed advertising into an interactive experience. From digital media, new advertising methods emerged, such as internet ads and interactive TV ads (Aymerich-Franch, 2014). Questions as How and What to do to create better and more powerful advertisements, were put on the table (Kolsaker and Drakatos, 2009). Thanks to this problem, many scholars have been working on this subject, in order to find other advertising formats. For example, van Reijmersdal et al. (2005) discovered that advertorials were positively accepted, as the ad was perceived as a co-sender, which gave it more trust. Likewise, a study from Sheehan and Guo (2005) found programmed content also received better acceptance, due to clean blend between advertised products and the TV programs.

1.2.5. **Advertising effectiveness**

The Ad itself doesn't constitute all the responsibility for its effectiveness. Many academics, state that an advertising message relies on other factors besides itself, like for example, the environment where the consumer is exposed to it. Several elements can be responsible for effecting advertising variables (cognitions, recognition, attitudes, and intentions), such as context-induced arousal or involvement), context-induced mood or affect and thematic congruence between editorial content and the ad (Dahlén and Edenius, 2007). Ducoffe (1995) claimed, advertising effectiveness can be quantified by its advertising value. Through his study he analyzed the role of advertising value and

classified its parameters. Other research highlighted advertising value as a way of forecasting consumers' intention and attitudes towards advertising (Liu et al., 2012).
Ducoffe (1995), also stated consumers' perception of utility of an Advertising campaign, is what defines its value. The effectiveness of that same campaign was measured by the degree of consumer fulfillment when stomped upon the ad (Pavlou and Stewart, 2000).

1.3.Internet Advertising

Online ads transfigured Internet into an effective advertising channel, notorious by its delivery, custom design and high interactivity. This type of media had a remarkable growth since 1994, when the first banner ad was published online (Lohtia et al., 2003). There are several advertising types of media firms can use in the "www" world. Some examples are buttons, banner ads, and pop-up ads, paid text links, sponsorships, target sites, superstitials and e-mail ads. Internet was a combination of different types of traditional media, such as TV, radio, magazines, newspapers, direct mail and billboards. Scholars found that if we compare traditional media with the internet, the conclusion is that internet is a goal- and task-, directed, more interactive and better to find information. In 2002, NTIA affirmed, online purchases were increasing in an unpredictable way. The spread was explained by online market unique benefits (Eroglu, et al., 2001). Online shopping began to be the preferred method, firms used to reach their desired revenue.
Nevertheless, in 2001, Kearney concluded, that 82% of consumers shopping online drop out their purchase intention before completing the transaction (Kearney, 2001). Following studies, associate these failures with lack of interest by costumers' needs (Rosen and Purinton, 2004). They came to the conclusion; firms should have built

websites to highlight consumers' online experience, instead of shaping their websites according to their physical stores.

Positive or negative feelings can breed through advertising (Schlosser et al., 1999). Several reasons are behind both marketers and advertisers disappointment with the internet. The story is repeating itself. First, towards traditional media and now are Internet ads. In other words, long ago studies revealed consumers were starting to avoid ads in the "old media", due to wide spread and common use of this strategy for most companies (Zanot, 1984). Well, this previous trend is now also attacking modern media, as consumers are starting to develop a feeling of disgust and annoyance by ads and only want to avoid this "plagues" invading their virtual space. Tsang, Ho, and Liang (2004) discovered that generally, consumers don't have a good attitude towards advertising.

In order to confirm these negative signs, we can look at the evolution on click-through rates (CTRs) on internet banner ads, starting from the very first banner published by HotWired.com, in 1994 (Briggs and Hollis, 1997). By the end of 1995, CTRs were 2% and in 1998 they declined to 0.5% (Duffy, 2001). Technological developments, are delivering consumers' new ways to avoid traditional advertising. Traditional advertising, like TV commercials and print ads has reached a point of saturation. New hybrid techniques and integrated advertising methods are coming to life (Balasubramanian, 1994). The problem of this evolution results from the fact that, it facilitates the promotion of products and events, and that nowadays society is filled with ads everywhere. According to Godin (1999), everyday consumers can be exposed to 3500 ads during their daily affairs, which is beginning to be too much and is starting to be annoying. People learned to deal with this plague by mentally block ads from their minds, creating a new phenomenon named "advertising schema" (Friestad and Wright, 1994, 1995) According to Hoch (2002), (Stafford and Stafford, 2002) an ad is interpreted as a

persuasive endeavor, which it makes consumers skeptic towards it and, consequently diminishes its power (Dahlén, 2005). Several other scholars, have been working on this matter (Dahlén, 2005; Friestad and Wright, 1994, 1995; Stafford and Stafford, 2002). More is not always better. Ha and Litman (1997) work, is a good example to corroborate this idea, as they found that when magazines use an excessive number of ads, each ad reduces its individual effectiveness, magazine diminishes circulation and, consequently, loses profitability (Dahlén and Edenius, 2007). Moreover, other scholars also studied this event. With it, a new term was created, "banner blindness". Banner Blindness was defined by Benway (1999) as a phenomenon describing users' ability to deviate their eyes from every piece of design that looks like an internet banner Ad. Even though, the story of ad avoidance seems to be repeating itself with Internet, this type of medium has a lot of differences from traditional media. Therefore, this new ad blindness is different from traditional media and its effects are more powerful than traditional media. There are several theories which help comprehend banner blindness, such as Perceived Goal Impediment, Perceived Ad Clutter on the Internet and Prior Negative Experiences.

1.3.1. **Perceived Goal Impediment**

As mentioned before, internet is more of a goal oriented tool, which, according to Li, Edwards, and Lee (2002) Internet advertising gives users the perception of being more intrusive than other types of media. Krugman (1983) found that when consumers are Web browsing and an ad slows or interrupts their journey, which may result in negative feelings towards the ad and consequently ad avoidance.

1.3.2. **Perceived Ad Clutter on the Internet**

Perceived Ad Clutter is the consumers' perception that the number of advertising promotions in a virtual space is exceeding its capacity. Speck and Elliott (1997) defined ad clutter as consumers' perception of an excessive amount of advertising for a specific timeline, and concluded, that can be responsible for the ad effectiveness. Perceived ad clutter is driven by the number of advertising ads.

1.3.3. **Prior Negative Experiences**

Prior knowledge is responsible for intervening in the process of consumers' information, as brand perception, purchase desire, product evaluation and overall organization of thoughts (Bettman and Park, 1980). Experiences help an individual gain new information, which can transmit in new attitudes and perceptions (Fazio and Zanna, 1981; Smith and Swinyard, 1982). Consumers value more their personal experiences, and tend to formulate their conclusions based on them, which leads them to choose more efficient methods of practice and decisions (Hoch and Deighton, 1989) Therefore, consumers can develop bad thoughts, driven by bad advertisement experiences, which can result in radical decisions, as ad blindness (Bettman and Park, 1980). Consumers can be annoyed by advertisers that communicate messages in an intrusive and abusive way (Sandage and Leckenby, 1980). Advertisers are trying to patch up this inevitable outcome, including promotional messages with program contents. Marketers are using several types of brand integration, as for instance, sponsorships or product placement (Newell, Salmon, and Chang, 2006). Brand attitude, translates not only in the overall appreciation of the product marketed and its associated brand, but also it is built on other parameters, as consumers' beliefs, values

or consumers' general enjoyment when stomped upon a promotional message (Bellman et al., 2014; Mitchell and Olson, 1981). However, the world is evolving, and more and more gadgets and services are making life easy for consumers to avoid the burden of watching commercials. If we take a closer look at the TV advertising business we can easily spot some feature choices consumers have to prevent from having to watch some commercial ad. The remote control gives viewers, a way to change channel, every time an advertising ad starts to annoy them. Also the fast forward button of some new TV boxes (ex: TiVo) is another application that threatens traditional media to desist altogether on TV business (Bronnenberg et al., 2010; Taylor, 2013). Another major trouble issue is the new daily routine of millennials, multitasking. Multitasking during tv commercials is increasing. A study from Monahan (2011), demonstrated 63% of TV impressions are not viewed basically because users are not paying attention to TV. A method used to fight this problem, is by mixing branded content and interactivity together, meaning insert advertising techniques inside a tv show (Cauberghe and Pelsmacker, 2006)). One practical example of this technique put it to action, was in a famous sitcom, Friends, when they decided to allow viewers to purchase items seen during the show, like Jennifer Aniston's sweater (Leddy, 2001).

1.4.Mobile Advertising

1.4.1. **Mobile industry**

Mobile phones have the advantage of being highly portable, being always connected and being extremely personal devices. Many mobile services are highly used by marketers and advertisers, including email, online purchases, shopping alerts and location based services (Mort and Drennan, 2007). Mobile devices are now consider

normal or essential in our society (Balasubraman et al., 2002). Specialists place mobile advertising as an important pillar, concerning mobile business developments (Bulander et al., 2005).

1.4.2. **Mobile Advertising**

Mobile Ads were defined as a text- and graphics- based message meant for commercial purposes communicated through mobile devices (Peters et al., 2007; Soroa-Koury and Yang, 2010). Haghirian et al. (2005) defines mobile advertising, as transmission of messages with advertising purpose, transmitted through a handset. Okazaki et al. (2012) established as visual or text messages that help gain new customers via mobile. Mobile technology creates new markets, a new competitive landscape and new opportunities to cultivate businesses (Stewart and Pavlou, 2002).

1.4.2.1. **How it works**

Mobile advertising is employed in two different modes, push or pull. While mobile push strategy occurs when marketers send advertising to mobile devices without consumers' request, a pull strategy takes place when consumers ask for more information about the firm, or daily updates and news (Dickinge et al., 2004). Push strategy has the challenge of needing prior acceptance from users. Godin (1999) massified this approach of requesting consumers' permission before engaging them with advertising messages. Mobile ad spending is directly related with the number of smartphone owners. As the number increases, consumers' trust in mobile commerce also increases. Consequently, more websites get adapted to a mobile structure and more apps appear on the market (Rosenkrans and Myers, 2012). One of the most important

channels for advertising is through mobile. M-Commerce is already studied by academics, used by professionals and spoken by the media (Hsu and Kulviwat, 2006; Leppaniemi and Karjaluoto, 2005; Varshney and Vetter, 2002).

1.4.2.2. **Mobile advertising evolution**

WorldNet TPS, predicted that mobile advertising, in the next 3 to 4 years, would achieve the same as E-commerce achieved in the last 15 years (Duane *et al*.,2014). Through mobile market growth, advertising had, more than ever, a superior reach (Richard and Meuli, 2013). Shabelman (2007) projected a 42% increase in mobile advertising spending, from 2006 to 2010, meaning from $871 million to $1.5 billion, respectively. Expansion of mobile market has brought a new channel of communication for firms to show and sell their products. In 2013, Mobithinking exposed global mobile advertising revenue would raise up to $11.4 billion in 2013 and it predicted it would increase to $24.6 billion in the end of 2016 (Kim and Han, 2014). In 2014, Social Media Industry Report revealed 43% of marketers surveyed had a mobile-optimized blog. In 2015 this percentage raised to 50% (Stelzner, 2015). Mobile advertising, has been adopted by organizations with global attention, as for instance, McDonalds, P&G, Microsoft and Coca-Cola (Wei et al., 2010). Some researchers have inclined their work in a matter of technology issues regarding mobile advertising (Li and Du, 2012).

1.4.2.3. **Purchase**

Researchers, stated it is imperative to study more about consumers' attitude towards mobile ads in order to understand how to positively affect them into making a purchase (Nittala, 2011). A JiWire's survey, in 2010, determined, more than 50% of participants, already engaged with at least one advertise from a mobile app. Also, in the same

survey, 20% of individuals who engaged on Ads had purchased a product from the ad they clicked (Jay, 2013). Purchase intention is influenced by consumers' attitude towards a specific product/service (MacKenzie et al., 1986)). A practical example is Lady Gaga's application that gave users the possibility to purchase clothes, worn in concerts and video clips, via digital devices, like pc, smartphones or tablets. This advertising technique had its flaws, as this type of ad was highly distracting to consumers which translated in divided attention, meaning it was not beneficial to either parties (Brechman et al., 2015).

When we talk about intention to purchase, we need to talk about flow. This theory, formulated by Csikszentmihalyi and LeFevre (1989) defined Flow as an immersed experience a person gets when it is fully focused in a task. People are so involved in an activity that their attention is just that activity and nothing else. Flow results in a state of mind where consumers get immersed in an enjoyable activity that lets them, momentarily, with lack of conscience. Csikszentmihalyi and LeFevre (1989) state Flow is as a state of mind with a defined objective, feedback, skills, focus, loss of self-consciousness, lack of time passing, and enhanced value of an ordinary task. Further research, classified flow by one-dimensional parameters that ranked this theory in different perspectives, framing a new model (Hoffman and Novak, 2009). Novak, Hoffman, and Yung (2000) conducted a study where it discovered 47% of consumers already experienced this phenomenon. Online flow was defined by Hoffman and Novak (1996) as a cognitive status consumers lived through while they were navigating online. According to him, it enhances consumers' will to browse and it can end in a product/service acquisition. Their model evaluates online flow by: a) level of skill/control; b) level of pressure/persuasion; c) level of focus/ attention; d) level of engagement/interactivity. Several researches, corroborate them by affirming flow incites customers to browse, purchase and repeat (Agarwal and Karahanna, 2000; Koufaris, 2002; Luna et al., 2002; Smith and Sivakumar, 2004). Additionally is important to

reiterate, flow has been used to clarify usage of internet, software Agarwal and Karahanna (2000), and online games (Hsu and Lu, 2004).

1.4.2.4. **Interactivity**

Previous approaches do not transmit the complete definition of mobile definition, as they miss out three main characteristics of this type of marketing, and classified it as a mass media strategy. Balasubraman et al. (2002) set mobile marketing as custom made, interactive and as an individualized experience. According to several researchers, interactivity has an important role, helping mobile ads to be accepted by consumers (Cho and Cheon, 2005; Drossos et al., 2007; Gao et al., 2009). With the advances in technology, modern ways of marketing are appearing, and with that, advertisers are betting on interactive ways to advertise their products/services (Pavlou and Stewart, 2000). The online world is much appreciated by marketers to try out interactive advertising (Loughney et al., 2008)). Also, by Kannan et al. (2001) standards, ease of appliance of interactivity is the secret to a good advertising strategy in mobile devices. Interactive advertising can be beneficial in recognizing users' interest in the product/service showed in the ad (Bellman and Varan, 2012). Likewise, it introduces a new method of persuasion, which can increase awareness and deliver new kinds of content (Sicilia et al., 2005). Several scholars have beetled the importance of interactivity when a company wants to promote a product through a mobile platform. They highlight that if they print a certain degree of interactivity into a mobile ad, then there is a higher possibility for the user to retain positive outcomes from that same ad (Lustria, 2007). Yu, Paek, and Bae (2008) referred, interactive ads in mobile devices, are not only influencial for the respective ad but also to products and brands the ad is representing.

1.4.2.5. **Mobile advertising benefits / limitations**

A study conducted by Rosenkrans and Myers (2012), had the goal of understanding the difference in effectiveness between a non-mobile banner and a mobile banner. The experience took place in a newspaper website, by evaluating the click-through rates of a mobile banner vs two non-mobile banner of 728x90 and 300x250 pixel. The ad was on for 3 months in the website venturacountystar.com. The results were significantly different, the mobile ad had a 0.17% click-through rate (CTR) and the non-mobile banners had 0.06% and 0.05% respectively, which can be considered a huge difference in effectiveness.

CTR measures ratio of clicks to impressions (Rosenkrans and Myers, 2012; Schonberg et al., 2000). Haghirian et al. (2005) state the rapid mobile advertising spread, reflects the power of reaching everyone, every time, everywhere. Peters et al. (2007) even adds that using mobile phones a firm can deliver a promotional message in the most perfect time, place and with a more funny and interactive approach. Another important benefit is the ability for brands to communicate with individuals, that are less accessible the media platforms or media in general (Ferris, 2007). MobiAD, in 2010, affirmed mobile ads are in most cases cheaper than a more traditional advertising strategy (Jay, 2013). This type of advertising should be used nevertheless. When applied, mobile capabilities can be very effective, like for example location-based Ads, when merged with coupons benefits (Bellman et al., 2014; Duane et al., 2014; Goldman, 2010; Jayasingh and Eze, 2009). Geolocation technology provides advertisers to send users commercial messages through their mobile phone, according to their actual physical location. From this location-based techs, we can highlight features like Bluetooth, wireless application protocol (WAP), global positioning systems (GPS) (Leppäniemi et al., 2006). A survey by JiWire, in 2010, regarding consumers' attitude, exposed to a mobile promotional message, concluded that approximately 50% of the individuals who participated in the

experiment, would willing to share their physical location in order to receive location-based mobile ads. This survey also came to the conclusion that consumers are keener on advertising, when they are in motion, rather than when they are at home. Furthermore the questionnaire, also found the public accepts better promotional ads via mobile. Mobile advertising effectiveness depends on several factors. One major factor relates to the audience, the ad is targeted for (Jay, 2013). Summarizing, mobile devices have new features capable of engaging with consumers in a more personal way, as Salo and Tähtinen (2003) claimed when affirming, advertising via mobile is much more personal than traditional routes, where consumers often appear in an anonymous. Although, concerns pointed out, indicate issues regarding sensitive information from consumers' side, such as their current location or their interests and daily activities. Therefore marketers have the task of analyzing mobile systems and services, as mobile advertising, to determine which ones are well received by consumers, and apply them with caution and responsibility (Ferris, 2007; Mort and Drennan, 2007; Okazaki and Hirose, 2009).

2. Incentives, Targeting and Gamification

2.1. Incentives

One of the biggest challenges marketers face nowadays, comes from how to motivate consumers to focus on advertisement. As previously mentioned, advertising can be a great cause of intrusiveness and lead to higher levels of annoyance among consumers. This issue is known to produce negative behaviors towards ads and, consequently, negative behaviors towards the brand itself. Rettie et al. (2005)research, focused on this particular problem, and reached to the conclusion, it can be mitigated when advertisers add relevance and value, such as discounts or special offers. They affirm this type of strategy has the possibility to increase consumers' acceptance for advertising campaigns. Others studies completed these findings by coming to the conclusion, incentives increase click-through rates (Hupfer and Grey, 2005; Xie et al., 2004). According to Bellman et al. (2009) consumers were positively open to the idea of having to click on an impulse banner ad to get free samples. Varnali (2012) stated there are two types of incentives, monetary and non-monetary. On one hand, incentives as discounts, gifts and discounts are some examples of a monetary approach. On the other hand, non-monetary benefits have intrinsic value like status upgrades, level-ups, or premium feature rights (Kim and Han, 2014). However, Rettie and Brum (2001) discovered, benefits by monetary incentives have substantial influence in users' willingness to receive advertising messages. They even found, financial incentives have a significantly better level of acquisition than other type of incentives. Likewise Drossos and Giaglis (2005) work was coroneted, in the idea that economic incentives help advertisers implement multiple promotional strategies, such as coupons, rebates, price packs, and contests. Offering samples as incentives also is another route, a marketer may use to

capture users' attention. Studies such as Marks and Kamins (1988) considered sample incentives as a great way of introducing new products/services in the market. Hupfer and Grey (2005) additionally added, samples can also provide a possibility of attracting consumers that have less patience and are goal directed search individuals.

2.1.1. **Mobile Incentives**

Advertising, in mobile industry, is also highly influenced by the offering of incentives to consumers. A survey from In-Stat (2005), found nearly half of the individuals participating in the study, were on behalf of, having advertise in their mobiles in exchange of incentives as premium features. Air2Web (2003) said, mobile advertising is more effective when consumers receive some incentive for their attention and disposition to visualize commercial ads. Air2Web, from 2003, even adds brands might even be harmed if consumers don't receive a suitable compensation (Hanley *et al.*, 2006). A study, for mobile ads in shape of commercials, from the Mobile Marketing Association, in 2007, found 41% were willing to watch ads if they were offered free mobile videos. Also, the study found, 20% would watch the commercials, if they were offered free mobile TV or a reduced fee for the same purpose (Hanley and Becker, 2009). Tsang et al. (2004) found a connection between consumer attitude, intention and behavior, concerning mobile marketing. They also concluded, consumers' intention to receive an SMS-based mobile ad, may increase, when some kind of incentive is provided. Furthermore, their research was focused in the connection between consumer attitude, intention and his behavior concerning mobile ads. From a study, grounded on Taiwanese individuals, it was concluded, that mobile ads should require previous permission before engagement, and by providing incentives and entertainment, consumers' attitude might improve favorably. However, several studies obtained different results on consumers' attitude towards incentivized ads. For instance, Mobile

Marketing Association conducted a survey, with more than 11,000 U.S mobile subscribers, and discovered 11% of applicants between ages of 18-24 years old, were keen on the idea of receiving mobile coupons (Hanley et al., 2006).

2.1.2. **Age**

According to Salo and Tähtinen (2003), marketers usually use college students to introduce mobile marketing strategies, and motivation towards accepting such techniques, can revolve around several variables. One important variable is the age of consumer. Barwise and Strong (2002) concluded the same by highlighting that consumer age is a robust influencer when we evaluate the power of using incentives in mobile ads, over its technological acceptance. For instance, their research discovered that younger consumers were more inclined to accept to engage with an ad, comparing with older consumers, when offered with incentives. Hanley, Becker and Martinsen tested students in college concerning their level of willingness, when facing mobile advertising in exchange for incentives. The experiment, came to 3 significant numbers, 29% of college students would accept mobile ads if they get some kind of incentive, 51% will not accept ads even with incentives and 66% would accept ads if they would get paid. The study also came to the conclusion, young adults are more inclined to consider mobile ads than the general mobile phone population (Hanley *et a*l., 2006).

2.2. Targeting and personalization

Mobile marketing industry is has grown significantly fast in the last years, and part of the reason this happened, was the unique capabilities, mobile has to know who is the consumer, where he is, and what is he. A study from eMarketer, in 2013, found that U.S

adults spend time in non-voice mobile applications, more than one hour a day, and that overall mobile usage and receptivity have grown (Ashley and Tuten, 2015). An ad is more appealing when it revolves around their preferences and their relevant content (Robins, 2003). Furthermore, in order to gain publics' attention, an Ad should focus on consumers purchasing routines, using a personalized message (Xu and Gutierrez, 2006).

2.2.1. **Message Relevance**

The message relevance, points to how much a promotional message, relates with consumers' cognitive and/or affective needs (Celsi and Olson, 1988). Relevance of the message has been assigned as one of the imperative factors for messages' perceived value, and consequently, consumers' behavior towards the ad (Ducoffe and Curlo, 2000).

Rettie et al. (2005) corroborated these findings for mobile industry as well, affirming consumers, who consider mobile advertising messages more relevant, are more inclined to visit a web site, visit a store, reply to the message, enable access to personal information, engage in word of mouth, or buy the product. Several studies found various elements that may have influence on a mobile advertising message relevance (Okazaki et al., 2007; Varnali and Toker, 2010). These variables enable unique personalization and targeting strategies, considered critical for mobile ad to successfully capture consumers' attention (Varnali and Yilmaz, 2010). Intrusiveness, as previously mentioned, is one of the biggest problems when it comes to mobile advertising and, according to Krishnamurthy (2001), relevance of a promotional message content, is not only to make it more interesting but also to reduce intrusiveness. In a study conduct by Varnali, two processes are considered effective to improve the relevance of a message: targeting and personalization (Varnali, 2012).

2.2.2. **Targeting**

In 2015, a research, carried out by Pradeep Korgaonkar, Maria Petrescu and Eric Larsson, studied mobile advertising effectiveness, and targeted for Hispanic-Americans vs non-Hispanics-Americans. The experiment consisted in a questionnaire about their mobile preferences and habits, as well as their mobile attitude towards mobile advertising. Athwart the results, they found Hispanic-Americans have different attitudes concerning mobile advertising from non-Hispanics-Americans (Korgaonkar et al., 2015). Varnali (2012), defines targeting as the "identification of users who are likely to be interested in the subject/content of the mobile marketing campaign (establishing content relevance) at the time of message delivery (establishing contextual relevance)". In other words, targeting is the process where a brand identifies its potential clients, studying their interests and establishing the perfect context to present a product. Mobile advertising brings unique capabilities such as location sensors and perfect timing responses, which increases significantly the context where the product is announced (Varnali, 2012). Consumers' behavior towards advertising messages depends on the location. For instance, consumers are more inclined to click in an ad from a place near their location (Ghose et al., 2013). This explains the response affection to promotional offers, being related to the retailer proximity (Luo et al., 2014). Danaher et al. (2015) claims, even inside a shopping mall, store distance may affect ad response. Targeting is considering a persuasive and effective strategy and is widely accepted not only amongst consumers, but also amongst industry professionals. BIA/Kelsey survey, in 2014, found a locational targeting, has been a strategy abruptly used in the industry, with 40% of the 11.4 billion spent solely in the U.S, in 2014 (Fong *et al*. 2015). For example, in 2013, an mBlox study found 47% of its applicants would provide their location in order to receive interesting offers and discounts. In the same study 57%,

considered short message system (SMS) or push notifications as two persuasive approaches to receive promotional offers (Fong et al. 2015).

2.2.3. **Personalization**

Varnali (2014) defines personalization as the message "degree to which it is tailored to meet the needs, wants, and characteristics of a target segment of consumers" (Varnali, 2012). Personalization inputs in a promotional message, inserts features as incentives, familiar sources to increase credibility, custom visual and text designs, to fit the cognitive style of a consumer, and the custom languages to be more suitable for consumers (Varnali, 2012). Smartphone technology allows features with tracking capabilities according to costumers' routines and demographics. In addition to this fact, smartphones bring a new level of targeting in line with different context or recently events (Xu et al., 2008). Location-aware features can help advertisers to communicate their message reaching individual consumers from their physical location, using a mobile device. This functionality facilitates substantial information and promotes a great level of personalization (Richard and Meuli 2013). With the inclusion of personalization, effects from targeting message relevance are more powerful. Both processes are linked, and one without the other can't be fully effective. Furthermore, he refers that to positively implement both processes, it might imply building large consumers databases, which leads to complex data mining algorithms and high maintenance costs (Varnali, 2012) .

2.3. Gamification

Printed materials, TV commercials, website banners, videos and mobile advertising are some of the tools used by marketers nowadays. However, a new type of media advertisement has recently come to life, advergaming, and is already becoming popular and successful. For instance, in the US it was projected to reach $68 billion by 2012 (Goh and Ping, 2014). Gamification uses game practices and regulations, applied into a non-gaming environment, and was introduced in 2010 as a non-gaming term (Robson et al., 2015).

2.3.1. **Advergames**

Advergaming can be defined as the inclusion of promotional messages in a game, to promote a brand or a specific product, during the time users are interacting with the game (Mallinckrodt and Mizerski, 2007). Advergames have natural interactivity which contrasts with the effects on other types of advertising such as product placement in movies and television programs. Online video web sites, as Hulu and ABC.com created frameworks, where advertisers can publish video ads, with an interactive improvement. These platforms give marketers, the ability to engage users while showing them products, which turns this method into a more enjoyable experience for consumer, meaning, it turns them into advergames (Goh and Ping, 2014). Advergames aren't structured to be played for hours straight, instead they are designed to be played for minutes and are for all kinds of players, since casual gamers to experienced gamers. Usually it is easy to master game mechanics, and their main objective is to enhance the message, provided from its brand (Winkler and Buckner, 2006).

2.3.1.1. **Advergame Mechanics**

Previous studies nominate three imperative design components that provide the answer for advergaming effectiveness; Expectancy, Fit and Interactivity (Heckler and Childers, 1992; Palmer, 2002; Vessey and Galletta, 1991). As interactivity increases in an advergame, players' motivation also increases, and with it, their brand perception and will to play the game increases as well. These advertising messages, shown during gameplay are proved to be more powerful and convincing when a player is fully immersed in the gaming experience (Raney et al., 2003). Furthermore, if users demonstrate positive emotions towards a game while playing it, these emotions can be translated into positive emotions towards the brand through transportation experience (Glass, 2007; Green et al., 2004; Homer, 2006). In other words, players who actually are enjoying playing the game, will have a friendlier attitude towards the brand promoted in the game (Wise et al., 2008).

2.3.1.2. **Advergame types**

There are several types of advergaming. For example, there are advergames, where promotional ads appear in the background, inserted in billboards. One example of advertising messages on background is billboards from a car racing game. This type of advergaming can be also called, in-game advertising, and is a much smoother way to include advertising messages inside a gaming environment. This type of games help players to absorb the ad implicitly, and not be disturbed by it. In-game ads have more probability on skipping unnoticed by users' conscience and being only noticeable by users' subconscious mind, which helps advertisers, not dealing with consumers' negative reactance towards the ads (Edwards et al., 2002). Other types of advergames are the standalone games that can appear on web sites. A practical example of an

advergame specially made for marketing purposes is game designed from Pepsi, where the aim of the game was basically for players to catch Pepsi cans falling from the sky. This game was a branding example, with simple mechanics of moving right or left an empty basket to catch Pepsi cans falling from the sky, where every player would immediately learn how to play and master the game (van Reijmersdal et al., 2012).

2.3.1.3. **Effects on children**

These games have an explicit approach to leading consumers' thoughts into the brand, while playing. Prior studies, found that advergames are indeed an effective way of advertising, particularly when used on children (Lee and Faber, 2007; Van Reijmersdal et al., 2012; Wise et al., 2008). Marketers target children, as they usually possess a great weight in families' budget and their consumerism addiction (Buijzen and Valkenburg, 2000, 2003; Garde, 2008).

2.3.2. **Limitations**

Meanwhile most reviews see advergaming in good eyes, scholars, as Friestad and Wright (1994) are more skeptic, when it comes to this subject. According to their research, advergames use an aggressive approach to transmit their promotional message, and this route can be, in the eyes of some users, excessive, and consequently can drive them to resist communications. However, Kim, Lim, and Bhargava (1998) state, this negative behaviors transmitted by explicit branding campaigns, can balance by transferring positive effects. Nevertheless, is important that advertising is well inserted in the gaming environment. The promotional parcel must be in perfect symphony with game theme and context. This way is easy for gamers to understand the connection between the two parts, and better understand games' story and purpose.

Prior research found that when an advergames are coherent and understandable, consumers have a positive perception towards advertised products / brands (Hernandez et al., 2004). For instance, if a travel agency wants to create a custom made advergame, it should create one in the same context as its brand, meaning, it should develop a game using a travel-related context, in order to make sense in gamers' minds (Wise et al., 2008). Most times, the game used to promote a brand is specially made for this task and its only goal is to present the brand with an engaging and interactive approach (Wise et al., 2008). Opposing to traditional media, where consumers just observe in a passive state, advergaming brings users closer to the experience, as individuals have the possibility to engage with brand elements. Researchers add, that consumers demonstrate better attitude, in response, memory and focus towards an advergame, where its context is well mixed up with the brands purpose (Suh and Lee, 2005). To understand this media advertisement method, is important to highlight the interactive approach that helps captivate users and transmit friendly behaviors towards the brand. In the end, advergames, brings them closer to the message firms want to pass on (Dahl et al., 2009).

3. Theoretical foundations

3.1. Mobile research theories

Being this business model, meant to be applied using mainly smartphones, the study was grounded in theories used in mobile technology, concerning users' acceptance. The most generally applied theories in the mobile field of study, embody Theory of Reasoned Action (Fishbein and Ajzen, 1977), Innovation Diffusion Theory (Rogers, 2004), Optimal Stimulation Theory (Hebb, 1955), Theory of Cognitive Dissonance (Festinger, 1957), Technology Acceptance Models (Davis, 1989) and Uses and Gratification Theory (Katz and Blumler, 1974). Throughout these engineered models, researchers Leppaniemi and Karjaluoto (2005) elected several parameters responsible for conditioning consumers accepting mobile technology. He catalogued them by three different fields: industry, medium and consumer. Also some researchers included Demographic parameters as another significant field, when analyzing consumer acceptance (Barnes and Scornavacca, 2004; Carroll et al., 2005; Leppaniemi and Karjaluoto, 2005; Rettie and Brum, 2001; Tsang et al., 2004). Example of industry parameters, are technological devices (ex: devices, networks, standards), time transmission, complexity, user adoption, easy-of-use, compatibility, government policies and industry guidelines (Leppaniemi and Karjaluoto, 2005). Example of medium parameters are interactions market-to-consumer, context, costs, incentives adoption, and permissions (Barnes and Scornavacca, 2004; Martin and Marshall, 1999; Stewart and Pavlou, 2002). As Consumer parameters we have, advertising attitude, involvement level, innovation level, stimulation response, trust, control and risk. As Demographic parameters we see, age, gender, income and education as some possible examples (Barnes and Scornavacca, 2004; Carroll et al., 2005; Leppaniemi and

Karjaluoto, 2005; Rettie and Brum, 2001; Tsang et al., 2004). Other reasearchers who studied consumer acceptance models for mobile advertising, used other parameters, such as advertising value and content, Haghirian et al. (2005) entertainment value and information value (Bauer et al., 2005), permission, content, wireless service provider control and brand trust (Barnes and Scornavacca, 2004; Carroll et al., 2005). Furthermore, Krishnamurthy (2001) highlights message relevance, customization, privacy costs, message processing costs and monetary benefits, as other relevant mobile advertising parameters for consumer acceptance.

3.2. Brand Recognition and Memorability

The present study was meant to evaluate participants' memory and brand recognition. Both these elements have been known to be linked and studied together.

Brand recognition can be considered when users have the competence and knowledge to identify a certain brand after establishing first contact (Wixted and Squire, 2004).

Memorability is known to be evaluated through recall and recognition (Gillund and Shiffrin, 1984).

Researchers appealing to eye-tracking technology concluded that users' have better chances to memorize information, when they pay more attention(Goodrich, 2011; Intraub, 1979; Loftus and Kallman, 1979; Wedel and Pieters, 2008). High levels of attention increases time to better process a determined advertising message (Yun et al., 2005). During a promotional video, attention is not always at the same level throughout the whole movie. Attention rate over video duration has a shape of a parable, reaching its peak in the middle of the movie, meaning users are more focus in the middle of the movie (Lloyd and Clancy, 1991). However with quiz basis users have a reason to be fully focused over the entire movie. If a message captures users' attention it goes from

sensory memory to short term memory, or working memory (Schweppe and Rummer, 2014). Recognition presents the best sensitive memory to evaluate whether a message was encoded (Lang, 2000). Encoded messages have better odds to be transferred to long term memory (Schweppe and Rummer, 2014). Therefore, short term brand recognition can be determinant to enhance brand recognition in long term memory as well. This experience tries to enhance users' attention in order to improve their memory over the advertising videos, asking them questions at the end of each video. This way, users have more probability to have better brand recognition on the short term memory, which can after lead to long term memory.

3.3. Questionnaire foundations

There was no study that could prove, asking questions related to advertising video, increased brand recognition. However a quiz structure was already used as an advergame in prior research, meaning this structure was already considered an advergame possibility (Bellman et al., 2014).

All questions were posted in the questionnaire, in order to enhance brand recognition. Videos were all used in TV broadcast and taken from the public video platform Youtube.com. Moreover, prior research found that high involvement in advergames lead to lower brand memory, due to cognitive capacity constraints (Grigorovici and Constantin, 2004; Nelson, et al., 2006). Therefore a quiz game can be considered not a game with high levels of involvement. Some work has been done relative to presenting in an ad video, aspects like the brand name or the slogan. Chaney et al. (2004) found that brand/product recognition depended on how products/brands were demonstrated, as pictures or in words. According to scholars presenting the brand name or slogan may

increase brand recognition. The slogan has been proved to positively influence brand recognition by Stewart and Furse (1986).

3.3.1. **Brand**

As for the brand name, more thorough research has been made:
Brand name can appear in shape of both visual and verbal aspects of the respective video.
Brand appearance in the video is an important factor which can result in enhanced brand recognition.

3.3.1.1. **Visual**

All texts, characters and images from the video can be considered as visual aspects of the movie. According to Romaniuk and Lock (2008) there is a strong good relation between brand recognition and visual frequency. Other scholars corroborate Romaniuk's findings (Scott and Craig-Lees, 2006; Stewart and Furse, 1986).

3.3.1.2. **Verbal**

All sounds and speeches are considered Verbal aspects of the movie. Likewise, verbal frequency has been already linked to brand recognition. Three research studies established a positive relation between them (Pavlou and Stewart, 2000; Stewart and Furse, 1986; Stewart and Koslow, 1989; Walker and von Gonten, 1989). However two Romaniuk's point out that this link is not effective when the experience is conducted in a natural environment, such as the subjects' home.

3.3.1.3. **Dual mode**

The two previous brand execution tactics have been proved to be more effective when matched together. This combined tactic, has been tested positive not only in experimental environment and pretests, but also in natural environments (Brennan and Babin, 2004; Gupta and Lord, 1998; Law and Braun, 2000; Romaniuk and Lock, 2008).

3.3.1.4. **Duration**

There is little relation between brand recognition and movie duration. Several studies were made in accordance to this important aspect none returned a positive connection between duration and brand recognition (Romaniuk and Lock, 2008; Stewart and Furse, 1986; Stewart and Koslow, 1989). However Romaniuk and Lock (2008) found that when brand is placed more than ten seconds it can have positive association with brand recognition.

3.3.2. **Product Information**

Asking questions about product attributes is not proven to enhance brand recognition, however repeating product attributes more than once in a commercial may contribute to brand recognition. By asking questions at the end of the video, the effects may be the same as watching the commercial all over again as it may repeat the specific scenes in consumers' head, when they try to remember the answers. This way, at least the products information will be in their heads one more time. Lautman and Dean (1983) research faces this question and returns with evidences that confirm that repeating product attributes twice has a marginal effect on consumers brand recognition.

3.3.3. **Non product related questions**

This question includes all audio sounds, visuals and characters that are not related to the brand and product, but are there to context the product into an appealing story that can persuade and relate to consumers. Again, asking these questions is not proved to help with brand recognition, but some of these elements are important for consumers to fix and associate with the brand like for example celebrities hired to promote the product in the commercial. For instance, Friedman and Friedman (1979) suggest that using celebrities in ads, may increase ad recognition, Mapes and Ross (cited by Ogilvy and Raphaelson, 1982), found that the use of celebs in ads resulted in a 22% increase in ad recognition. Additionally, Petty et al. (1983) found that product recognition can also be improved when using celebrities. Nevertheless, this type of questions should not be the focus, as they can lead to less brand recognition. Researchers concluded that some cues inserted in the ad may help distract users from the important aspects of the video, branding and product information. For instance, according to Bello et al. (1983) the use of sexual/decorative models may increase motivation and ad recognition (Lachance et al., 1977) but at the same time, it can result in less brand recognition (Lachance et al., 1977; Steadman, 1969) and less brand thoughts (Severn et al., 1990).

3.4.Feedback foundations

In society, individuals can be influenced by several elements to behavior in a specific way, meaning individuals can be predictable according to their actions, behaviors and attitudes. The Theory of Planned Behavior is one of the most acclaimed theories to study behavior predictions. This theory was developed by Fishbein and Ajzen (1977) and transmits how humans have particular behaviors. The theory of planned behavior

was constructed in order to surpass limitations from the theory of reasoned action (Ajzen and Fishbein, 2004). According to this theory, when individuals have time to decide how to behave, the best predictor of that behavior is individuals' intention.

Behavior intention, has been established by Fishbein and Ajzen (1977) as the individuals' perception over a determined behavior performance. For example, most actions that are not involuntary, usually come from users intention, like eating, going out with friends, playing football. However intention does not completely illustrate the "actual intention".

Depending on the outcome of each element, the strength to predict ones intention would be determined. This theory already been used in several field of studies, as for instance, e-coupons (Kang et al., 2006), environmental issues (Sparks and Shepherd, 1992), smoking business (Godin et al., 1992), e-commerce services (Bhattacherjee, 2000), sustainable products (Kumar, 2012) etc.

This theory is divided in three elements; attitude, subjective norm and perceived behavioral control (Fishbein and Ajzen, 1977). According to (Ajzen, 1991), the more positive an individuals' behavior is, towards an attitude, subjective norm and perceived behavioral control, the better his/her probability to perform that behavior.

3.4.1.1. **Attitude**

Attitudes can be described as evaluations of people, objects, events or ideas. They are generally individuals' opinion over thoughts and things which can be positive or negative. For example, Zeithaml (1988) states, that purchase intention reveals the users' willingness to buy a certain product. Therefore, they will have intention of purchasing a product if they have positive feelings toward a brand or product. Prior research already affirmed, attitude has tremendous effect towards intention (Korzaan, 2003; Taylor and Todd, 1995).

3.4.1.2. **Perceived Behavioral Control**

Perceived behavioral control relates on how much control the individual has over the environment, meaning how easy or difficult would be a determined task to be accomplished (Ajzen, 1991). This element reflects control beliefs that influence a specific behavior, fostering it or blocking it. Scholars already established that perceived behavioral control influences directly intentional behavior (Taylor and Todd, 1995). The higher the individuals' trust in his/her capabilities, the higher is the probability of a positive outcome for a determined behavioral intention.

3.4.1.3. **Subjective Norm**

The last element refers to how normal and ordinary a particular task would be in order to be accepted by others as well. In other words, what is the degree of approval this task or action would have, among society (Ajzen, 1991; Ajzen and Fishbein, 1975).

Users are subjected to peer pressure, meaning they are normally influenced by their groups in life, like family, friends, school mates, etc. Even though, scholars named Subjective Norm a direct influencer on behavioral intention, not only in theory of planned behavior (Ajzen, 1991; Venkatesh and Davis, 2000) but also in theory of reasoned action (Ajzen and Fishbein, 1975) some research state the opposite, considering that there is no direct link between subjective normal and behavioral intention (Davis, 1989).

4. Research Methodology

4.1.Question and Purpose

This master thesis describes a problem in nowadays society and explores the idea potential, through an experiment which simulated and tried to understand its effectiveness. The problem revolved around advertising industry and its ineffectiveness with consumers, especially, traditional advertising strategies in mobile phones, internet and TV, such as banner ads and TV commercials. The problem, already described and explained previously, in the background theme, allowed to test a combined advertising method, with a purpose of improving users' attention, and interest towards promotional messages. This research was aimed to understand behaviors from five hypotheses or five scenarios, testing out users' attention and brand recognition, regarding three demographic parameters, age, gender and occupation. These parameters tested the effectiveness of commercials when presented in a quiz game structure, when presented only commercials according to users interests, and when offered incentives for users' attention.

This research was meant to find out if consumers are more concentrated watching commercials when:

H1, questioned whether confronting users with targeted ads would be beneficial for their attention.

H2, questioned whether rewarding users with incentives would be beneficial for their attention.

And ultimately analyze what is the difference in brand recognition for H3, H4, and H5:

H3, questioned whether presenting users, commercials in a quiz game structure would be beneficial for their attention.

H4, questioned whether confronting users with targeted ads would be beneficial for their brand recognition.

H5, questioned whether rewarding users with incentives would be beneficial for their brand recognition.

4.2.Methodology

This research was conducted with a quantitative paradigm and aimed to describe particular behaviors and attitudes regarding advertisement. Its methodological approach followed a descriptive nature and a logic order.

First, a literature review was conducted, in order to gather information on prior studies concerning mobile industry, advergaming, incentives and targeting ads, so that it was understood the prior work done in this field of studies. Secondly, was important to collect information by creating a platform which simulated this type of strategy, in order to collect field data and real experiences from a tested subject sample as well as participants opinion on the business model idea. For that, a questionnaire was put together where users had to watch commercials in a shape of a quiz game with questions related with their interests and with a rewarding system. Additionally, before the game, users' provided their demographic information, as gender, age and occupation. After the simulator, a feedback survey was also constructed, to understand users' opinion on the business model idea and the best method to prototype it into a real product. This particular survey was grounded in the Theory of Planned Behavior (Fishbein & Ajzen, 1977), following instead a hypothetic-deductive logic. After this, one month later, another test was sent to the same subjects, to test out their brand

memorability on the same brands which appeared on the quiz simulator. Thirdly, was important to compile all data, collected from the two experiments and surveys, to better comprehend the outcome of the combination of each method on the study and each demographic variable influence over them. This part was meant to discuss the results in order to formulate theoretical assumptions. Lastly, was important to conclude which results had meaningful importance over the experiment, mentioned each assumption constructed followed by a plausible topic of further research for future work on this field. Additionally was important to mention each limitation of the current study followed by suggestions of improvement for future research.

Regarding studies' depth, it was an exploratory research, meaning that there were no significant conclusions to be expected. Instead, the study was meant to address a problem with high level of uncertainty, and little research, in order to help further investigations to have better grounds and direction.

4.2.1. **Questionnaire foundations**

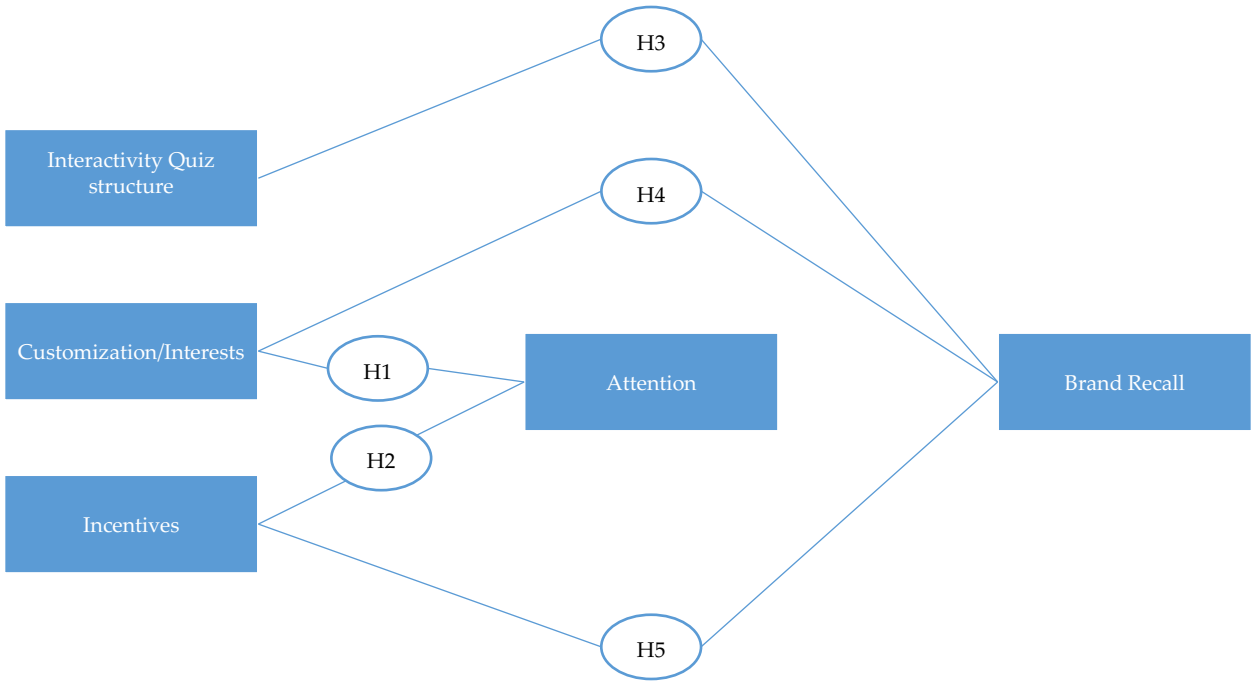

FIGURE 1 - Operational Framework – Attention and brand recall.

This present study focus on evaluating elements, such as attention and brand recognition, and relying on a quiz method to help users stay focus and memorize promotional messages and giving them a visual possibility to read one more time each brand and relevant product information. Therefore, if a user memorizes a brand asked in a quiz video, it can lead to better brand recognition in the short term, as previously explained in (subchapter 3.2). Furthermore, questions regarding product information or even non-product aspects from the video can be result in better brand recognition, as mentioned in subchapter 3.3.

The questionnaire followed the design and method from FIGURE 1, evaluating the combination of three strategies. The quiz structure was considered and evaluated as an advergame strategy, which was already mentioned in subchapter 2.3. Likewise both

customization and incentives were also mentioned and explained in subchapter X and X, respectively.

4.2.2. **Feedback foundations**

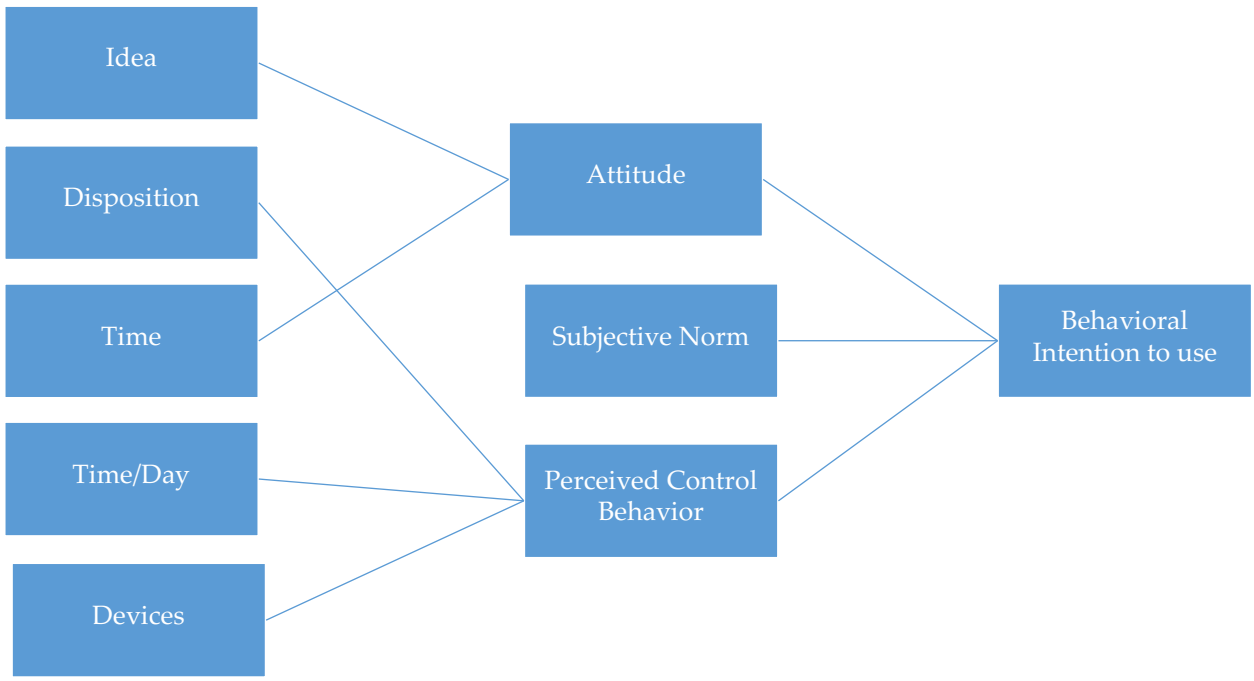

FIGURE 2 - Feedback theoretical model grounded in Theory of Planned Behavior.

Five questions were asked to users in order to assess participants' opinion on whether if a game functioning with the business model tested, would be well used by them (FIGURE 2). This survey was grounded in the Planned Behavior Theory, by Fishbein & Ajzen (1977), helped predict participants' behavior on whether they were going to accept this business model. (Subchapter 3.4)

The five questions were divided by the three elements; attitude, subjective norm and perceived behavioral control.

4.2.2.1. **Attitude**

From this element two questions were assigned to evaluate users' perception on whether this game and, consequently this business model would be a positive or negative idea:

Question 1 – What do you thing of the idea? – "Idea"
Question 3 – how much time you would you spend playing this game? – "Time"

4.2.2.2. **Perceived Behavioral Control**

From this element three questions were assigned to evaluate users' perception on whether this game would be easy or difficult to include in their lives.

Question 2 – Would you be willing to play this game? – "Disposition"
Question 4 – Where would you thing this should be implemented? – "Devices"
Question 5 – How much time would you be willing to spend playing a day to reach a 10 euro prize until the end of the month? – "Time/Day"

These questions were formulated to understand what would be the best gaming features to facilitate users' acceptance, over the intended game. If the game was according to users choices over these three questions, their intentional behavior would have more probability of being positive.

4.2.2.3. **Subjective Norm**

Subjective Norm had no questions to evaluate its level of importance concerning intention to adopt the tested business model. The reason why Subjective norm did not have any question associated was because this business model was not thought to have any controversial topics or matters that could result in some kind of hostile opinions from society towards who would use such game. However some scenarios were thought, just for reassuring purposes that would put this app in check for users. The first scenario came from the fact that this business model rewards people prizes for their time watching commercials. Due to the fact that nowadays the world, lives in societies who are blocking or running away from ads, maybe this type of method may offend people who hate advertising, because they are giving this firms more ways to interfere with peoples' lives. Additionally some people might think that it is a waste of time watching commercials to earn prizes when you could be working for something useful in society. This type of concerns may incite peer pressure for users that might have liked to play this game but were somewhat embarrassed or persuaded not to play by their friends, family or society in general. Also we could highlight cultural issues this app might have in some countries or religions.

Nevertheless, if this tested had a question to understand the level of persuasion for a subjective norm, it would be a multiple choice question with five options (FIGURE 3).

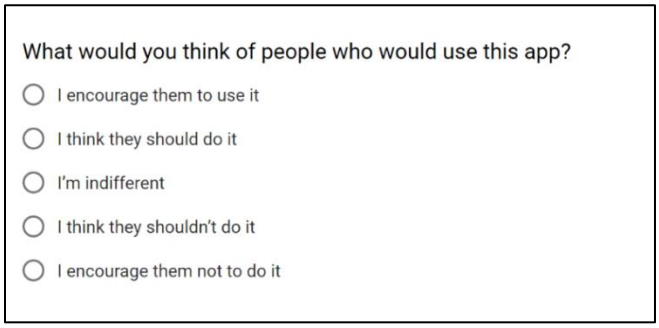

FIGURE 3 - Hypothetical question for Subjective Norm

Options' order was from the best answer on top to the worst answer on the bottom, being the middle one the most neutral. In other words, if participants chose the first one, it meant that Subjective Norm would be the most positive answer possible. On the other hand, if users chose the last one, Subjective Norm would be the most negative answer possible.

4.3. Tools and Procedures

This subchapter, presented each choice made and explained the reason how it was done.

The experimental phase took place online, meaning each user participated in a questionnaire, via PC, tablets or smartphones. The questionnaire was constructed with Google forms and the results were compiled and analyzed through a custom built Microsoft Excel file. The Experiment had 160 participants, and was focused more on people ranging ages between 18 and 30 years old. Subjects were contacted via Facebook, through a common message and a link to Google forms survey. Likewise some participants were encouraged to share the test with their friends and family. Approximately 400 people were contacted to conduct this experiment, which gave it a return rate of approximately 40% of positive responses. Subjects had a window of 10 days to participate in the first survey.

4.3.1. **Pretest and semantic test**

First of all, a pretest would be recommended to conduct in order to ensure every question was perceptible and understandable to participants, as well as every video (Hult et al., 2004). However a pretest would involve a significant amount of rules and

statistic research, which would be translated in a complex analysis and significant amount of time spent. This test means, usually five times the number of questions asked.

Nevertheless, a semantic analysis was conducted in order to comprehend if the experiment was perceptible to users, special questions asked, by selecting five individuals from the used sample to test out the experiment and return some feedback on the their opinion about the questions perception, choice of videos and evaluating their practical method strategy playing the game.

4.3.2. **Online quiz simulator and survey data collection**

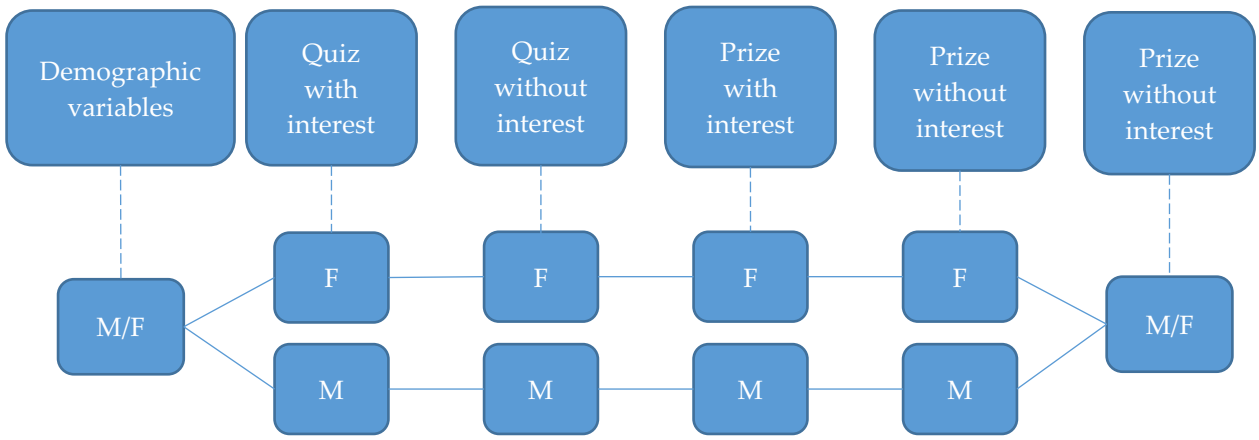

FIGURE 4 - Diagram representing quiz simulator operations sketch

The experiment, provided users the possibility to play a quiz game, where its questions were about commercial advertising campaigns. The test began presenting a slide with a general description on what was the experiment all about, and the three variables that were being tested: questions' format, interests and prize. Also, it seized the opportunity to alert applicants to the limitations of Google forms software and requested them to only watch the videos one time, in order to collect results with more precision.

Additionally, this first slide announced, the experiment would be divided into three phases, personal info, questions and feedback. Throughout the entire questionnaire, users were obliged to fulfill all questions before advancing to the next phase (FIGURE 4).

4.3.2.1. **Demographic parameters**

The first phase was responsible for asking individuals demographic questions, such as age, gender, occupation and email address. This phase was inserted in this experiment, due to the fact that it was necessary to conduct a survey to better adjust users' experience to the commercials collected. Likewise, this phase was used to better comprehend the results afterwards, giving the ability to segment users' performances, according to specific parameters, and also detect and nullify biased variables. The test did not ask the exact age. It sectioned in ranges, "less than 18 years old" (<18), "between 18 and 30 years old" (18-30) and "-" (>30). As for Occupation, users had also three choices, "High School Student" (HS), "College Student" (CS) and "Non-Student" (NS). These two questions were constructed in a multiple choice system. The other two questions were more generic, as the gender was also multiple choice and had two choices, "Male" and "Female". Email was asked as a short answer text, perceived by data validation for email addresses.

4.3.2.2. **Commercials**

In the second phase, users were confronted with commercials, which could be followed with, questions about those same commercials. This phase was divided into three categories, "QUIZ Game", and "QUIZ Game with PRIZE" and "Commercials with no game" (FIGURE 4).

First category, QUIZ Game, presented video ads in shape of a quiz game, where, firstly, a video, with a duration ranging 20 seconds and 2 minutes, was shown and afterwards three questions about this video were asked. The category included four videos, separated in two groups, where the first group was composed with videos according the participants' interests, and the other two were just generic videos. Users had to focus their attention in each advertising video, in order to answer questions correctly. The attention had to be in terms of a wide number of parameters, such as sound, text, colors, as the answers could come in text inside the video, or be spoken, or even be pictured it. Videos were collected via YouTube, which gave users the ability to fast-forward and rewind it, as many times as they wanted. Is also important to highlight the fact that videos, according to users' interests, were targeted, according to their gender.

After answering to all questions, participants proceeded to next category, the "QUIZ Game with PRIZE". This category was design the same way as the previous one, having also two groups, one with two videos, according to gender interests, and other with two generic videos. However, this phase was rewarded users with a prize if they answered correctly all questions of the category. The prize offered was common to both genders and was small but symbolic at the same time. The prize chosen was a small chocolate.

To summarize, both categories had 8 YouTube videos, 12 multiple choice questions, where two videos were directed to males, other two were direct to females and the other four were just generic, having each video three questions with three options assigned, with just one correct answer. Evidently, only for four videos were shown to each subject, depending whether they were male/female. As for the last category, "Commercials with no game", participants were presented again with four videos, provided by YouTube, showing TV commercials. Same as the last two categories, it one showed four videos split into the same interest/generic groups. The difference of this category relied, on the fact that it presented videos without questions whatsoever, which did not give users any reason to watch the ads in the first place, especially the

last two ads which did not even assure the projection of interesting ads for participants. Second phase reached the end, and participants continued to the next and last phase of the experiment.

4.3.2.3. **Feedback**

The third phase was the Feedback phase, and consisted in conducting an actual survey to assess what users thought of the idea tested, and how did they think it should be implemented. The survey was constructed following Theory of Planned Behavior foundations, from subchapter 3.4, in order to predict consumers' behavior on whether they would accept such business model strategy. This phase presented users, for the first time, the actual business model idea that was being tested in the experiment. The slide showed a written elevator pitch where the idea concept was shortly described, in order to get users to understand the business model and the reason why the experiment was made in the first place. The concept was summarized as a platform where the "burden" of watching commercials is transformed into a QUIZ game, allowing users to visualize commercials directed to their interests and rewarding them with prizes for their attention, in case they answer the respective questions correctly. Feedback had five survey questions, one where subjects

had to give their own opinion about the idea, one where they responded on what conditions they would adhere the platform, one where they expressed their opinion on how much time would they willing to use the platform, one that demonstrated where would they think it would be best to implement the platform, and the last one assess users' opinion on how much time would they be willing to spend, using the platform, in order to reach 10 euros, at the end of the month.

4.3.3. **Feedback question analysis**

Analyzing more further the structure of each feedback question, all five questions were intentionally inserted to be able to answer two of the three elements of the Theory of Planned Behavior; Attitude and Perceived Control Behavior (PCB). All questions were represented in (TABLE 1).

4.3.3.1. **Attitude**

Questions	Dimensions	Foundation	Context (all questions appeared in the third phase of the experiment)
What do you think of the idea?	Attitude	Planned Behavior Control (Ajzen, 1991)	1-5 Likert scale (1 = bad idea, 5 = good idea)
How much time would you spend in this platform?		Planned Behavior Control (Ajzen, 1991)	1-5 Likert scale (1 = never use, 5 = daily use)
Would you be willing to play this game?	Perceived Behavior Control (PCB)	Planned Behavior Control (Ajzen, 1991)	Multiple choice with four choices ("Yes, if offers prize", "Yes if are related to interests", "Two answers above" and "No")
Where would you think this platform would be implanted more efficiently?		Planned Behavior Control (Ajzen, 1991)	Checkbox with three choices ("Smartphones", "PC" and "Smart TV"), and an "Other" for a custom option
How much time would you spend in the platform in order to reach 10 euros, at the end of the month?		Planned Behavior Control (Ajzen, 1991)	Multiple choice with three choices ("< 5 minutes", between 5 and 10 minutes" and more than 10 minutes")

TABLE 1 - Feedback questions - Foundations and context

Attitude was evaluated by two questions, the first question, "Idea", and the third, "Time". This two questions were the most important questions of the survey, because, as already mentioned, (Ajzen, 1991) stated attitude reflects most times users' intention. So if users' responded positive answers on these two questions, the probability for them to play the game would be high. If some of these questions, or both were negative, Attitude towards the intention of playing this game would be negative as well.

4.3.3.1.1. Idea question

The "Idea" question gave consumers' opinion on whether they had a positive or negative opinion regarding the respective business model. The survey started with a question on users' opinion about the concept. This question was constructed in a linear Likert scale, from "1" to "5", where the "1" represented a "bad idea" and the "5" represented a "good idea".

4.3.3.1.2. Time question

As for the "Time" question, gave consumers' opinion on whether they would play the game, and how much time they would play it. The third question, focused on how much time would users be willing to spend using the platform. Same as question one, it was constructed in a linear Likert scale, from one to five, where "1" represented a "Never use it" and "5" a "Use it on a daily basis".

4.3.3.2. **Perceived Control Behavior**

PCB was assessed by three questions, the second question, "Disposition", the forth, "Time/Day" and the fifth, "Devices". All questions referred to users' opinions on whether what would be the best features and methods that a possible prototype and final version would have to have, in order to work. According to (Ajzen, 1991), PCB reflected users' opinion on whether the game would be difficult or easy to include on their lives. In other words, if the game adopted users' options, this would represent the easiest route for them to adopt the game. On the other hand the other non-chose options would represent difficulties for them to adopt the game.

4.3.3.2.1. Disposition question

Starting with the question "Disposition", it gave participants' opinion on what would be the best features to have in the game. The second question was structured as a multiple choice question, where users only were allowed to choose one choice. There were four choices to choose from. The first and second choice were "yes" choices, where their conditions were if they win any prizes and if the ads were according to their interests, respectively. As for the last two choices, one was with both previous conditions, and the other was a simple "no" choice, meaning the users were not willing to play the game.

A positive intention towards playing the game be easy if the game would have the features users' chose in this question.

4.3.3.2.2. Devices question

"Devices" question, represented users' opinion on where should the platform be implemented. The forth question was constructed in an open check box structure, where users could select more than one choice. The suggested options were, "Smartphones", "PC" and "SMART TV", having still an "Other…" possibility where the applicants could write in a suggestion. A positive intention towards playing the game be easy if the game would have be constructed in the platform chose by users.

4.3.3.2.3. Time / Day

"Time/Day" question, represented users' opinion on, how much time users were willing to spend a day to reach a 10 euro prize, until the end of the month. This fifth question was structured as the second question, a multiple choice question with only one choice allowed. Options were "less than 5 minutes", "between 5 and 10 minutes" and "more than 10 minutes". A positive intention towards playing the game be easy if the game would corresponded to the time users' chose to reach the 10 euro price.

4.3.4. Online quiz simulator and survey data compilation

After collecting all responses, a Microsoft Excel file was created to compile all data. This Excel page allowed organizing and better comprehending the results of this experiment. All tools and procedures from the online quiz simulator were explained in more detail in APPENDIX I.

5. Findings and Discussion

This chapter displayed each choice made and explained the reason why it was done. Results were thoroughly explained, and presented through tables and graphics, when necessary. At the end of each subchapter an overall conclusion was written, to summarize each subchapter. The main goal of this exploratory research was to test a new method of advertising and study its effectiveness in terms of brand recognition.

5.1. Demographic parameters

The test began asking participants to fulfill the first page of the survey with their demographic information, age, gender, occupation and email address. These questions were asked, in order to adjust the experiment to participants and to compile results in greater detail and reach more thoughtful conclusions. It was important to highlight email was not a demographic parameter however was in this section due to logistics.

5.1.1. **Age**

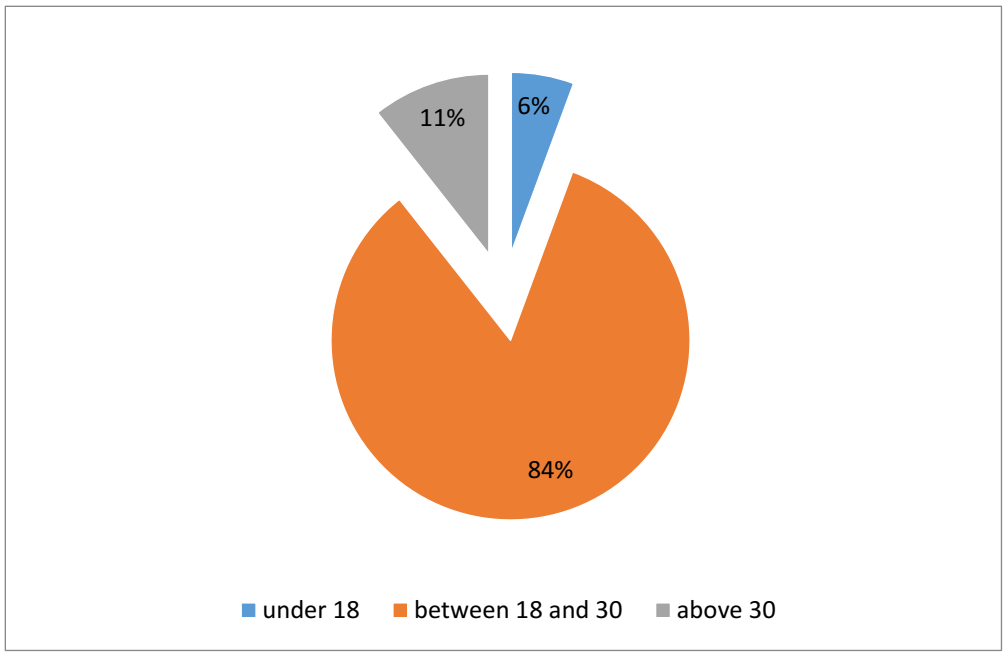

FIGURE 5 - Graphic representing age parameter

As presented in FIGURE 5, age parameter had the highest discrepancy, throughout the three options, having the majority of participants, ages "between 18 and 30 years old". This option had a percentage of 84%, as for the participants with "less than 18 years old" and "more than 30 years old", they were the lowest with only 6%, and 11% respectively.

This significant difference can be explained by three facts. First, the way participants were contacted, was through a Facebook network, linked to a person also with an age 18-30, meaning the majority of people who seen this survey link was in the same age range.

Secondly, it was proved that college students, which usually are individuals with ages 18-30, were the best public to challenge and test this type of experiments, as it will be explained further along the way in Subchapter 5.1.3.

Lastly this survey normally took time to fill out, which made it kind of annoying for some individuals. However, being a master thesis experiment, made other master students that were also writing their own thesis or that would soon write it, felt more sympathetic to the cause.

5.1.2. **Gender**

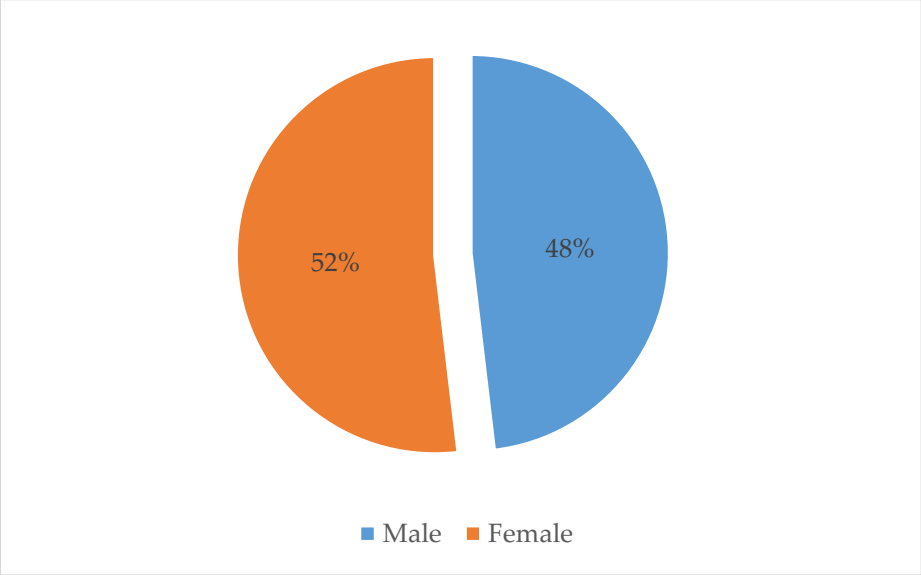

FIGURE 6 - Graphic representing gender parameter

Contrary to age, gender was the parameter with less discrepancy in demographic parameters. The two genders were almost "50-50", being males slightly less, 48%, and female slightly more, 52% (FIGURE 6). This result might be explained by the fact that the test was not directed to any of the gender types alone. This was helpful and beneficial, as the experiment was designed with special attention to this parameter, having both males and females' different video tests with different questions, adapted to their interests.

5.1.3. **Occupation**

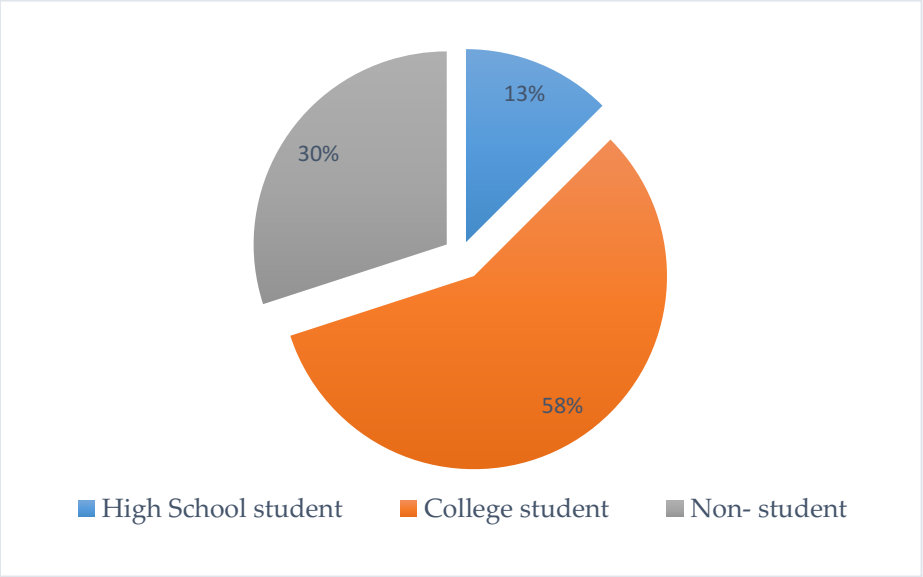

FIGURE 7 - Graphic representing occupation parameter

Regarding occupation parameter, results were as expected, similar to age parameter. As presented in FIGURE 7, CS were again a majority, having 58% of the total individuals. Through these results, it was possible to better understood participants' profile. Analyzing HS, 11/20 students were individuals that had more than 18 years old already, which could have meant these students were probably already going to college next year. Almost a third of participants, 30%, were NS, which gave it a fair sample to evaluate this class, who had high probability of their participants already being employed and earning their own salaries. This fact might have influenced their willingness to accept such advertising method, as it was focused on offering incentives for consumers' attention. However, this occupation parameter might have not implied they were all working, which could've led to an even more important category, unemployed individuals. Additionally, it was important to highlight the fact that even

individuals from other categories might have been working as well, which resulted in the assumption that another parameter should have been used to understand who was currently employed.

5.1.4. **E-mail**

Finally, email parameter which is important to highlight it was not a demographic parameter, had its sole purpose to establish the connection between an individuals' participation in survey one, the questionnaire, and feedback phases, with survey two, brand recognition phase. Some individuals showed concerns, giving out their email for the experiment. This fact might have resulted in people abandoning the quiz before finishing it, or giving a fictitious email just to enter. Due to the email validation limitations, using false emails was possible, which might have partially explained the lack of responses on the second survey. Nevertheless, email gave uniqueness to every participant, helped with data compilation and, at the same time, gave a sense of anonymity to the test.

5.2.Quiz simulator

Quiz simulator was put together to evaluate participants' performance, concerning hypnosis H1,H2 and H3, meaning they were constructed to assess consumers attitude towards video ads in a shape of a quiz game, according to their interests and according to the incentives rewarded. Participants were put to the test, when answering questions regarding TV commercials, and, in one of the three categories, were given an incentive in case they answered correctly every question of that same category.

All tables presented participants from the quiz simulator presented users' performance over the questions they answered according to each category and demographic variable In other words, the overall sum was not meant to demonstrate 100%.

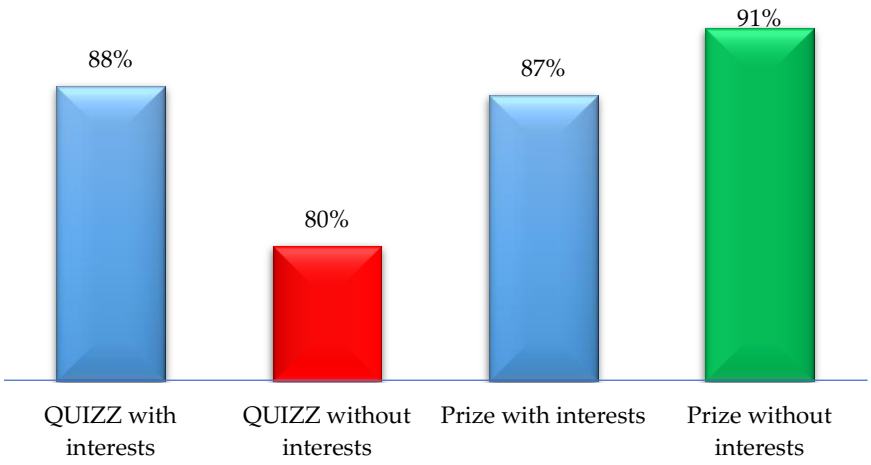

FIGURE 8 - Graphic representing categories performance

Quiz simulator results were thoroughly analyzed and presented in APPENDIX II.

The graphics and tables constructed gave the possibility to evaluate participants' performance and acceptance over H1 and H2. FIGURE 8 demonstrated the overall results of each category. However the results were not what was expected, as the PI, 87%, was not the highest in the table, with 4% less than PWI, with 91%, disrupting H2. Moreover, this prize category was not even higher than its non-prize rival category, QI disrupting also H1. Although, results demonstrated there were two questions that were more difficult than the average, which deviated the expected results. The reason why these questions were casted aside was explained in APPENDIX II. These results were the reason why it was necessary to construct another Excel file. The new Excel file was constructed following the same statistics and tables but without the two biased questions.

5.3.Quiz simulator – altered version

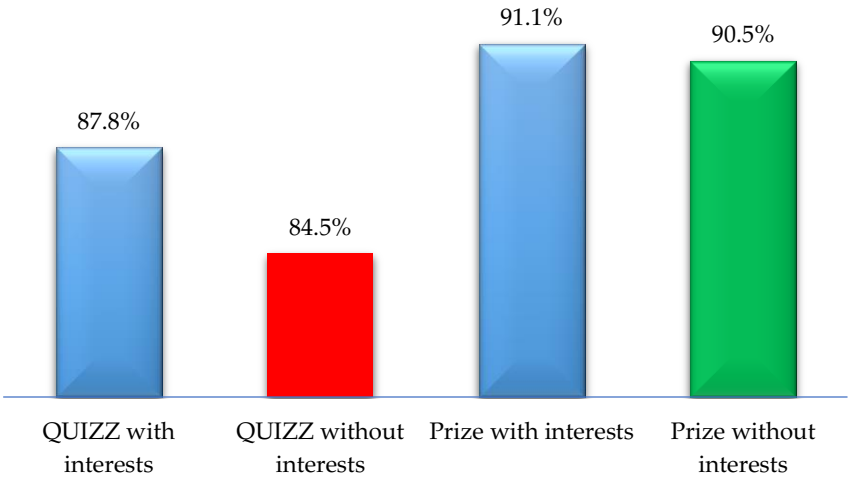

FIGURE 9 - Graphic representing categories performance – altered version

Through the exclusion of the two questions that were contaminating the results, the goal was to compute the numbers one more time to see the differences in performances on categories, QWI for females and PI, for males. This time numbers turned out to be according to H1 and H2, after all. As visible in FIGURE 9, Prize QUIZ with interests reached its peak and became the category with the highest performance. However, it was less than 1% higher than the other prize category, which meant H1 was not significant on the prize categories. This time the analysis was only to evaluate the two variables that changed. The study was constructed according the demographic parameters used in the first analysis. The discussion was only individualized for this two variables and the overall outcome was commented, especially in terms of H1 and H2 alterations.

5.3.1. **Gender**

Gender	Participants	QI		QWI		PI		PWI		Total	
		Total	%	Total	%	Total	%	Total	%	Total	%
Female	83	434	87%	356	86%	464	93%	458	92%	1712	90%
Male	77	409	89%	385	83%	340	88%	411	89%	1545	87%

TABLE 2 - Gender parameter

The feminine cell, QWI, ramped up to 86%, increasing 8% from TABLE 2. This increase was not enough to discredit H1 and H2 though, as this category kept still as the lowest performance, being 1% less than QI, obeying H1, and less 6% than PWI, obeying H2. As for the male number, it registered a 88%, increasing 7% from TABLE 17. This upgrade was not enough to confirm H1 or H2, though. The 88% was still 1% lower than QI, which went against H2. This value was also 1% lower than the prize quiz without interests, which did not prove H1.

5.3.2. **Age**

5.3.2.1. **Less than 18 years old**

Age	Participants	QI		QWI		PI		PWI		Total	
		Total	%	Total	%	Total	%	Total	%	Total	%
<18	9	46	85%	45	92%	49	98%	53	98%	193	97%
Male	4	22	92%	22	92%	20	100%	24	100%	88	96%
Female	5	24	80%	23	92%	29	97%	29	97%	105	91%

TABLE 3 - Ages younger than 18 years old concerning each category

As the previous study, TABLE 3 was analyzed with an overall approach, as the sample for this age range, 9 participants, was too small to be reliable. In the feminine cell, QWI, ramped up to 92%, increasing 7%, from TABLE 18, corroborated against H1 and confirmed H2. As for the male number, it did not altered, as it was already 100%. As previously mentioned, this table was not discussed further due to the small sample of this age range.

5.3.2.2. Between 18 and 30 years old

Age	Participants	QI		QWI		PI		PWI		Total	
		Total	%	Total	%	Total	%	Total	%	Total	%
18-30	134	709	88%	616	84%	669	90%	730	91%	2724	92%
Male	64	341	89%	318	83%	281	88%	341	89%	1281	87%
Female	70	368	88%	298	85%	388	92%	389	93%	1443	90%

TABLE 4 - Ages between 18 and 30 years old concerning each category

TABLE 4 was the table with more meaningful results, and the one that enabled to confirm of discredit H1 and H2 with more credibility. From QWI, results manifested a high increase in the female cell, from 77% to 85% which translated into an 8% jump. However, this number was not sufficiently high to oppose H1, as it was still 3% lower than QI. Likewise, the number did not alter H2 confirmation, as it was still lower than the 93% on PWI. Regarding the male altered number, PI was increased to 88%, which was not sufficient to corroborate H2, as QI was still 1% higher. H1 was also not statistically approved as the 88% was also 1% lower than PWI.

These results allowed making some assumptions. First, as female participants seemed to have better performances in the prize categories, it was viable to assume that females

were more focus on questions with incentives than males. Secondly, H1 was only visible in the categories without incentives which resulted in the assumption that H1 was only confirmed when incentives were not present.

5.3.2.3. More than 30 years old

Age	Participants	QI		QWI		PI		PWI		Total	
		Total	%	Total	%	Total	%	Total	%	Total	%
>30	17	88	86%	80	85%	86	92%	86	84%	340	91%
Male	9	46	85%	45	83%	39	87%	46	85%	176	85%
Female	8	42	88%	35	88%	47	98%	40	83%	164	89%

TABLE 5 - Ages older than 30 years old concerning each category

TABLE 5 was analyzed with an overall approach, as the sample for this age range, was too small to enable any plausible conclusion. The feminine number, from QWI, increased up to 88%, which translated in a 9% jump. The percentage did not confirm H1 nor H2, as both QI and PWI were not higher QWI. As for the male number, it had also a 9% jump, increasing from 78% to 87%. With this result, H1 and H2 were confirmed. The 87%, was 2% higher than QI, proving H1 and was also 2% higher than PWI, proving H2 as well. As previously mentioned, this table was not discussed further due to the small sample participants older than 30 years old.

5.3.2.4. Overall Conclusion

Due to smaller samples from the ages <18 and >30, these values were chose not to be used to make any final assumptions, however an overall comparison, between TABLE

3, 4 and 5, was conducted. Looking at the total numbers in each table, it was demonstrated the younger the participants were best performance. Furthermore the range representing 18-30 had a sufficiently wider sample, which allowed formulating two hypothetical thoughts. First, female participants had better performance in prize categories which gave up the assumption that females' attention is enhanced when they are offered some kind of incentive for their attention. Additionally, H1 was only confirmed in the questions without incentives, which gave up the assumption that H1 is only manifested when consumers don't have the option of receiving incentives for their attention

5.3.3. **Occupation**

Occupation	**Participants**	**QI**		**QWI**		**PI**		**PWI**		**Total**	
		Total	%	Total	%	Total	%	Total	%	Total	%
HS	20	99	83%	99	89%	100	92%	110	92%	408	85%
CS	92	496	90%	429	84%	463	92%	505	91%	1893	86%
NS	48	248	86%	213	83%	241	89%	254	88%	956	83%

TABLE 6 - Occupation parameter concerning each category

TABLE 6 also returned meaningful results, concerning H1 and H2 on whether they were or not discredited. This table allowed assessing H1 and H2, with the altered results, according to participants' occupation. Results, concerning HS, were not accounted for any assumptions and were only discussed with an overall approach, as the sample was too small to have reliable results. Looking at the numbers in QWI, where the female cell was altered, CS increased 3%, reaching 84%, and the number representing NS, increased 5%, from 78% to 83%. These results, corroborated H1 and

H2 as they were significantly lower QI, confirming H1 and were also lower than PWI, confirming H2. As for the altered male result, PI, it also confirmed H1 and H2. The number, representing CS, went up to 92%, being this way higher than the 90%, representing QI, and confirming H1. The percentage was also 1% higher than PWI, confirming H2 as well. However, it was clear H1 manifested more significantly through non-prize categories, enabling the assumption that advertising according to interests was not as important as if incentives were offered to the user.

5.3.4. **Quiz simulator conclusion with altered results**

The two questions that were taken out were in fact the reason why the results were not what was expected in the first place. However these modifications revealed that H1 and H2 were only proven partially. These tables and graphics constructed proved that H1, was only true when there were no incentives to help participants focus on the commercial. H1 was clearly manifested when users were up against the quiz game without prize, QWI. Although for the prize questions users had only slightly better performance for PI against PWI. On the other hand, H2 was proven on both categories, as the numbers from the prize categories were significantly higher than the numbers from the non-prize ones. Additionally, it was important to highlight the fact that females had a significantly better performance on the quiz questions compared to the male participants, which led to assume females get more focused when incentives are an option, when watching commercials. In other words this meant that H2 was confirmed and H1 was confirmed but only on the non-incentive categories.

5.4. Brand recognition

Through brand recognition survey, it was possible to test H3, H4 and H5. The test presented participants with several branding names, along with all brands corresponding to the commercials shown, during last survey. The goal for this survey, was to assess if commercials' brand recognition was augmented from the questionnaire method adopted, compared with the last brands showed, which did not have any questions nor any incentives, testing out H3. These last four non quiz commercials were divided in two videos according to users' interests and two generic videos, just like the other categories, contributing to confirm H4 as well. H4 test was completed by evaluating the difference on brand recognition from prize and non-prize categories, testing out if the interest category had better recognition than non-interest. As for h5, it was tested out by assuring if prize categories had better recognition performance than non-prize categories.

5.4.1. **Gender**

Brand recognition was tested through two tables with different evaluation parameters, one that only counted the percentages of the corrected brand option on every commercial and another counting not only the correct answers but also discounting the wrong options chosen. Before conducting both tests, the assumption was that participants were going to remember more the first videos, meaning the categories, QI and QWI, would be the most remembered and then brand recognition would decay chronologically (Peters and Bijmolt, 1997). This idea came from the assumption users would select more brands at the beginning of the options sheet, and at the end of the options sheet would just select the ones that they would remember. This would led to a

higher selection of brands, either correct or wrong, for the brands of the first categories. That said, a second table was created to fight this issue by prejudicing users that chose wrong brands with negative points.

5.4.1.1. Gender accounted for right answers

	QI	QWI	PI	PWI	NGI	NGWI
Male	84%	64%	67%	42%	30%	11%
Female	77%	68%	58%	33%	13%	8%
Total	81%	66%	62%	38%	21%	9%

TABLE 7 - Gender concerning each category - brand recognition without accounting for wrong answers

The assumption was proved to be true, after compiling branding results on a TABLE 7 with each category average performance. This table only accounted for the correct brands of each category which resulted in exponential performance decay, starting in the first category seen in the experiment, down to the last. Looking at the table, it was visible also a higher performance from male subjects over females.

5.4.1.2. Gender accounted for right/wrong answers

	QI	QWI	PI	PWI	NGI	NGWI
Male	17%	18%	17%	10%	10%	1%
Female	26%	20%	28%	13%	3%	1%
Total	21%	19%	22%	12%	6%	1%

TABLE 8 - Gender concerning each category - brand recognition accounting for wrong answers

Results from TABLE 7, made this experiment, construct TABLE 8, but this time accounting for both correct and wrong answers, giving the wrong answers a negative mark. This way it was possible to really understand individuals' performance over brand recognition.

By constructing FIGURE 10 and 11, it was possible to find which brands had more brand recognition, both in female and male brand experiences, taking into account the wrong choices as well. Looking at the numbers, the exponential pattern was not visible anymore. Instead, the graphic behaved according to H3, H4 and H5.

Analyzing it further, on one hand, male performances did not prove any hypothesis. Male results, from FIGURE 10, showed similar performances for the first three categories, 17%, 18%, 17%, and then decrease on the next two, to 10%, finishing the category NGWI at 1%. This behavior led to believe male participants, got bored after PI and lost total interest at NGWI. These results demonstrated males did not care about prize and interests, however looks like they still demonstrated attitude towards quiz advertising method.

On the other hand, looking at female performance numbers, in FIGURE 11, it was possible to prove H3, H4 and H5 almost in totality. First of all, one important fact was that female performances were better in almost all fronts when compared with males. This event was exactly the opposite seen in the last table where males had better performance. This phenomenon led to make the assumption males tried to guess more than females, which made them guess wrong more often than females and ultimately have worst results in the next table. Furthermore, female numbers showed PI with the highest percentages, with 2% more than QI, 26%, which proved H5, and 15%, more than PWI, 13%, which proved H4. H4 was also proved by quiz and non-quiz categories, as in each one of them interest category was better than the generic one. H3 was also proven, as all gaming categories were far better than non-gaming categories. However H5 was not completely proven, as PWI had 7% less performance than QWI.

Tables concerning age range and occupation were then constructed following the same method as the previous table.

5.4.2. **Age**

5.4.2.1. **Less than 18 years old**

Looking at branding according to age, the first step was to ignore "less than 18 years old" category, due to the small sample previously mentioned.

5.4.2.2. **Between 18 and 30 years old**

	QI	QWI	PI	PWI	NGI	NGWI
18-30	49%	50%	60%	32%	10%	3%
Male	38%	36%	34%	28%	16%	3%
Female	60%	63%	83%	36%	6%	3%

TABLE 9 - Ages between 18 and 30 years old concerning each category - brand recognition

The second step was to analyze "between 18 and 30 years old" category. Due to the fact that this class had the biggest sample, results in TABLE 9, were expected to be similar to TABLE 8. The same pattern was captured both in male and female, confirming the same results for each hypothesis. However, the percentages were much higher on both male and female, getting females to reach 83% percentage on brand recognition for PI. This results led to assume female users from 18-30, had better brand recognition over ads according to their interests, with offering of incentives. This fact only partially confirmed H4 and H5

5.4.2.3. More than 30 years old

	QI	QWI	PI	PWI	NGI	NGWI
>30	65%	18%	29%	0%	12%	-12%
Male	56%	22%	22%	0%	11%	-11%
Female	75%	13%	38%	0%	13%	-13%

TABLE 10 – Ages older than 30 years old concerning each category - brand recognition

Regarding >30, in TABLE 10, even though the sample was small, there was a distinctive pattern from all other tables, which led to outline two assumptions. First, the care for H3 was visible, as gaming categories were overall better than non-gaming. However, this theory might have been discredited by the assumption that this age range subjects showed an exponential decay over the questions, which led to assume users were losing interest in a chronological order. Nevertheless, the most credible finding in this table were the fact that numbers demonstrated a general focus and positive attitude towards all ads according to users' interests, which led to assume users with ages over thirty had better brand recognition towards ads according to their interests, confirming H4.

5.4.3. Occupation

	QI	QWI	PI	PWI	NGI	NGWI
HS	50%	45%	40%	25%	15%	-5%
CS	50%	54%	63%	29%	13%	2%
NS	54%	35%	50%	29%	6%	2%

TABLE 11 - Occupation parameter concerning each category - brand recognition

Regarding, occupation brand recognition, in TABLE 11, results did not have any more meaningful discoveries, except that all gaming categories had much better performances than the non-gaming ones, confirming this way H3.

5.5. Brand recognition individual brand performances

Brand recognition performances were tested individually, in order to discover general patterns from brand recognition responses individually and to understand whether some individual brand was disrupting results.

5.5.1. **Brand recognition male individual performances**

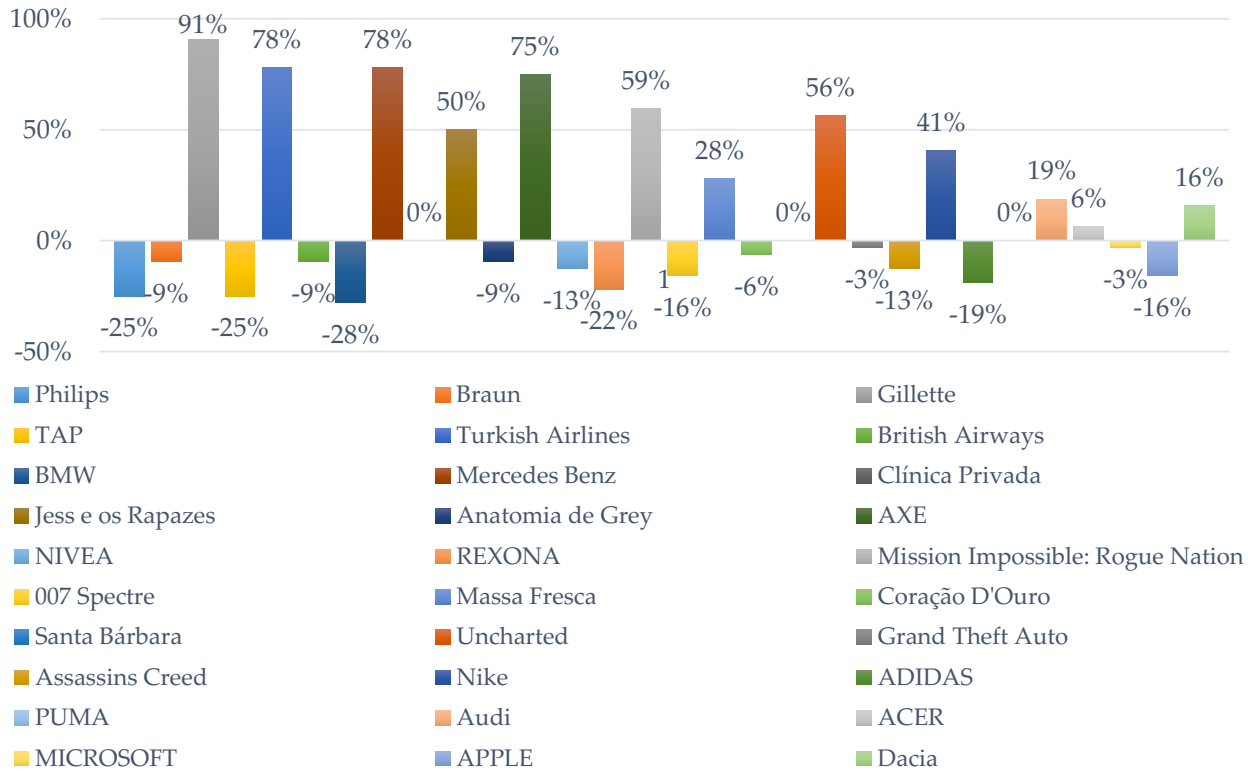

FIGURE 10 - Graphic representing individual brand recognition performances for males

Looking first at the numbers from the male survey, FIGURE 10, two facts were visible. First was that the first videos had much more brand recognition than the last ones, showing an exponential decay from the first categories down to the last. The exponential behavior was also perceptible, when looked at the wrong brands. The brands that were not in the commercials were more selected in the first categories. Additionally, within these brands, it was visible as well that there was always a rival brand that was stronger than the other rivals which helped assume that known brands have better recognition than unknown ones. For instance, when the correct brand was Gillette, other two brands rival appeared as options, Braun and Philips. Philips brand had a better recognition, 25% than Braun, 9%, which led to assume participants were more familiar to Philips over Braun. This phenomenon also was manifested in the prize categories, like for example with AXE, NIVEA and REXONA, where AXE was the correct answer and REXONA had 22% brand recognition over its rival NIVEA with only 13%. This phenomenon, even escalated when Acer from the non-questions category, being the correct answer, got less than its rival APPLE. This may be explained by two facts, first it could be because it was at the non-quiz categories which might led to assume consumers were not focus enough during those commercials, and secondly, the fact that APPLE was considered more powerful and is better known than Acer. This might have led consumers that did not remember the correct answers, to guess with a better known brand, as APPLE.

5.5.2. **Brand recognition female individual performances**

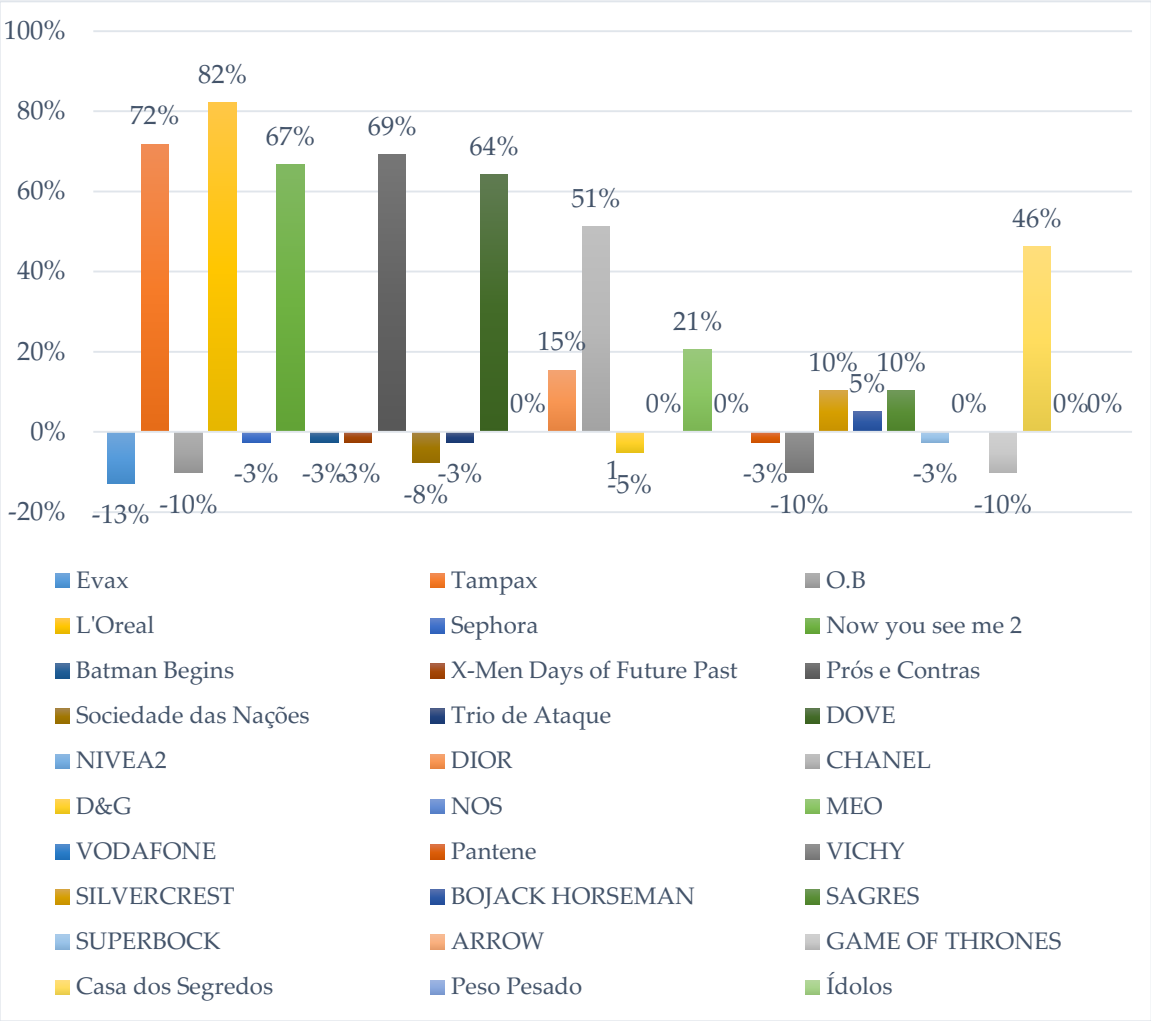

FIGURE 11 - Graphic representing individual brand recognition performances for females

Looking at the female chart, in FIGURE 11, representing brand recognition responses, the same patterns were demonstrated in the male chart. The exponential decay from the first category to the last, as well, and in either correct answers or wrong answers. However in the wrong brands, the decay was not as significant as in the male side. This fact might have occurred because females selected fewer brands, which led them to error less. Furthermore, the female graphic gave the possibility to make one more assumption. One of the brands, from, PWI, "*Casa dos Segredos*" was put at the end of the survey table, along with its wrong brands "*Peso Pesado*" and "*Ídolos*", and still had similar performances as its prize category brand, "MEO". "*Casa dos Segredos*" reached 46%, which was even more than twice the percentage of "MEO" brand, which only had 21%.

5.6.Feedback

For the feedback phase, overall graphics were sufficient to understand the behavior of all participants. However, tables were constructed to assess the choices of every question, according to demographic parameters, gender, age and occupation.

5.6.1. **Idea**

Idea	Percentages
1	2%
2	4%
3	14%
4	44%
5	36%

TABLE 12 - Survey question – Idea

The idea, represented in TABLE 12, received positive feedback as 44% gave it a mark 4 and 36% gave it a mark 5 out of 5, being 1 a bad idea and 5 a good idea, which represented 80% of all voting. As for results, according to the demographic values, the numbers did not show any meaningful behaviors worth mentioning.

5.6.2. **Disposition**

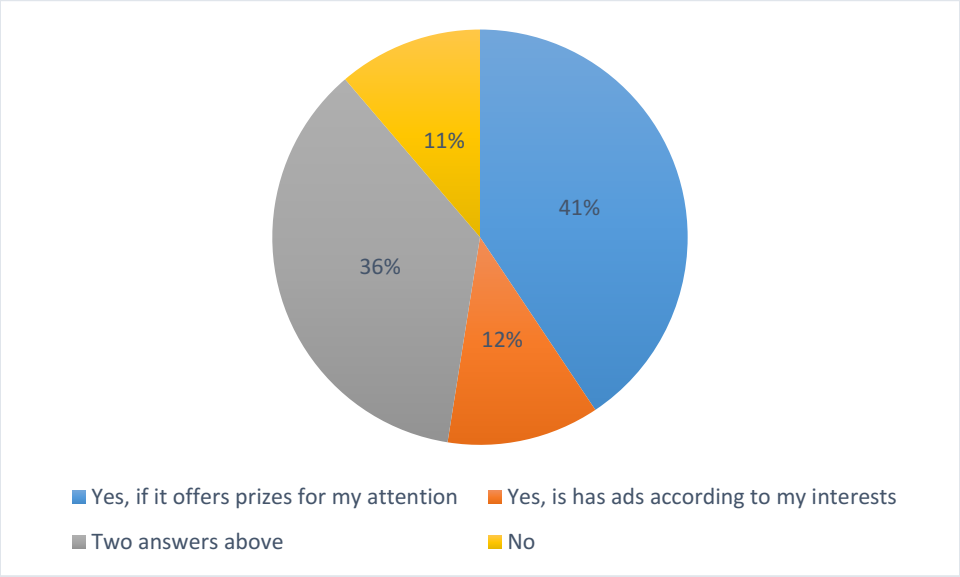

FIGURE 12 - Graphic representing survey question - Disposition

FIGURE 12 demonstrated that the majority of participants, when up against commercial videos in a quiz shape demanded the offering of some kind of incentive for their undivided attention. However 36% preferred that commercials also were according to their interests, as well.

Age	Yes, if it offers prizes for my attention	Yes, is has ads according to my interests
18-30	41%	12%
Male	47%	13%
Female	36%	11%
>30	35%	18%
Male	33%	22%
Female	38%	13%

TABLE 13 - Table representing ages between 18 and 30 years old concerning survey question - disposition

Analyzing it further it was possible to understand the difference between subjects with ages between 18 and 30 and subjects older than 30, by looking just at the two first options. Looking at TABLE 13, was possible to make the assumption, 18-30 subjects have a better attitude towards incentives and >30, have better attitude towards commercials according to their interests. This assumption helped confirm the previous assumption on TABLE 10.

5.6.3. Time

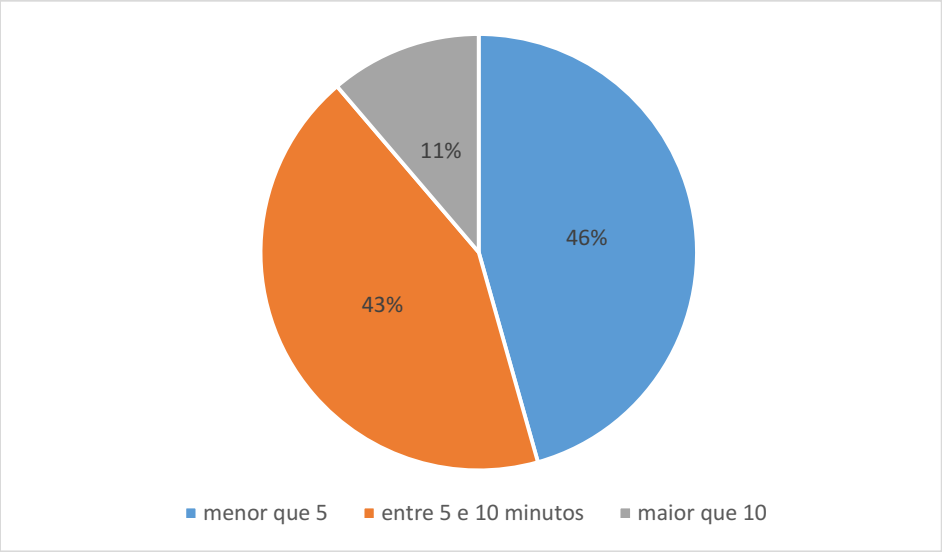

FIGURE 13 - Graphic representing survey question - Time

FIGURE 13 gave a clear thought on how much people were willing to play this platform if some day, came to market. 46% of participants gave 3 out of 5, being five to use the platform daily and 1 to never use it.

5.6.4. Time/Day

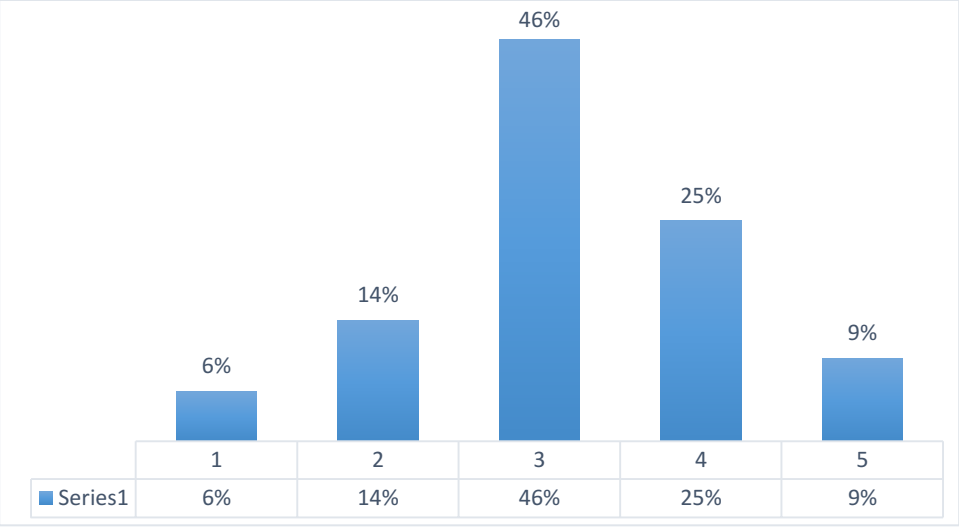

FIGURE 14 - Graphic representing survey question - Time/Day

FIGURE 14 gave a clear thought on how much people were willing to play a day, this platform. The graphic showed two strong options, less than 5 minutes a day, with 46% and between 5 and 10 minutes, with 43%.

Gender	Less than 5 min	between 5 e 10 min	Higher than 10 min
Female	37%	51%	12%
Male	55%	35%	10%

TABLE 14 - Gender concerning survey question - time/day

However looking at the numbers further it was possible to find a demographic parameter which demonstrated very different results, gender. Analyzing TABLE 14, it was possible to understand male subjects' were more in favor of "less than 5 minutes" option, with 55%, and females were more in favor of using the platform between 5 and 10 minutes a day, with 51%.

Occupation	Less than 5 min	between 5 e 10 min	Higher than 10 min
HS	10%	55%	35%
CS	48%	43%	9%
NS	56%	38%	6%

TABLE 15 - Occupation concerning survey question - time/day

Additionally, in TABLE 15, the different opinion according to subjects' occupation was also visible. On one hand CS were divided on both options, with 48% and 43%, for less than 5 minutes and between 5 and 10 minutes, respectively. On the other hand NS were

more inclined to the less than 5 minutes option, with 56% over 38% for the "5/10 minutes" option.

5.6.5. **Devices**

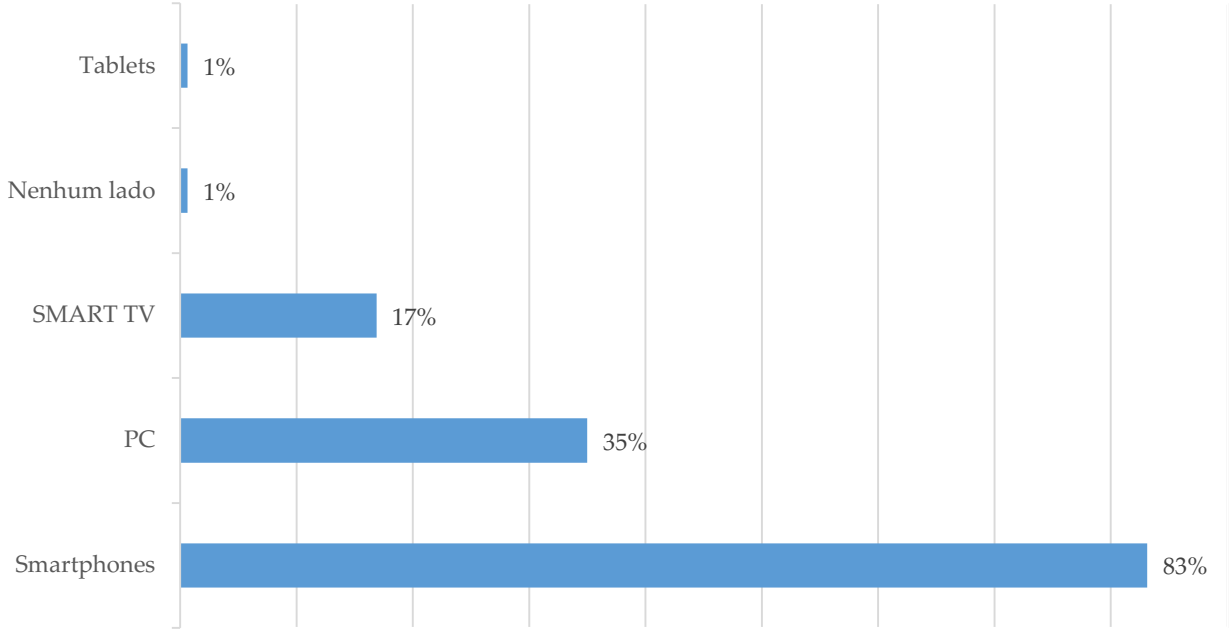

FIGURE 15 - Graphic representing survey question - Ideal Devices

Concerning FIGURE 15, on what devices the platform should be installed, users opinion was strongly directed towards smartphones, with 83%, over the second most voted "PC" with only 35%. However looking further into the results, it was possible to find a big approximation of this two options inside one age category, >30. Looking first at 18-30 participants options, in TABLE 16, it was highly perceptible the difference between Smartphones and the other categories. The option "Smartphones" got an overall of 84% over "PC" with only 33%.

Género	Smartphones	PC	SMART TV
entre 18 e 30 anos	84%	33%	16%
Male	81%	33%	20%
Female	87%	33%	11%
>30	71%	47%	24%
Male	78%	44%	22%
Female	63%	50%	25%

TABLE 16 - Ages between 18 and 30 years old and ages older than 30 years old concerning survey question - ideal devices

However, when looked upon the >30, in TABLE 16 the options were more divided, especially for the feminine audience which gave 50% to "PC" and only 63% to smartphones.

Conclusion

The experiment addressed the issue of lack of attention from consumers, when confronted with advertising campaigns. Nowadays, users possess tools that can improve their ability to ignore ads or even run away from them, such as Adblock, or even the improved "old" remote control, that gave the possibility for a user to change the channel or fast-forward when commercials were on. This work was developed to answer the question "How does a quiz format, incentives and targeted commercials affect users' attention and brand recognition?" The assumption was that users would be more focus on commercials which, not only would be according to their interests but also gave them incentives for their attention. On top of that, the quiz structure was thought to use the power of gamification and transform the burden of watching commercials into an enjoyable interactive experience. In order to reach the answer, five hypothesis were formulated to compile results according to three demographic parameters, age, gender and occupation. Due to the lack of theoretical work developed for this subject and lack of time, an exploratory study was conducted, to better understand whether the use of a quiz structure along with incentivized and targeted parameters, would be a beneficial approach to insert in the advertising industry.

Five hypotheses or five scenarios were configured: H1, H2, H3, H4 and H5. H1 questioned whether confronting users with targeted ads would be beneficial for their attention. H2 questioned whether rewarding users with incentives would be beneficial for their attention. H3 questioned whether presenting users with commercials in a quiz game structure would be beneficial for their attention. H4 questioned whether confronting users with targeted ads would be beneficial for their brand recognition. H5 questioned whether rewarding users with incentives would be beneficial for their brand recognition.

The study conducted had its own limitations, which demonstrated several improvements to take into consideration in future investigations. First of all, it would be interesting to conduct a study where the questionnaire experiment would be tested with a higher sample of participants and with similar ratios between each demographic parameter. This way it would be possible to make a reliable comparison between each age range and each occupation. Additionally, a pretest and pilot would have better impact on the outcome of the experiment. Secondly, the experiment was based on a promise of an incentive for every answer correct during the incentivized categories; however the incentive was just a promise of a small chocolate. It would be interesting in future studies, to understand the power of incentives by inserting different kind of incentives, and compare the results, in attention and brand recognition. The experiment would be interesting to recreate using a different technology to present the quizzes, namely a smartphone app since it was the most voted platform in the feedback phase. Using a smartphone would give the ability to block users from rewinding and fast-forwarding the video ad before the questions, and would give a better data validation system for the email. Data compilation lacked of an efficient system to test out questions difficulty and choice of videos.

From the results compiled for the quiz simulator, two hypotheses were tested, H1 and H2, according to the three chosen demographic parameters, and four assumptions were generated. First, H1 was clearly manifested more significantly through non-prize categories, which led to the assumption that users the power of targeted advertising is less powerful when incentives are offered. Secondly, H2 was clearly better manifested in the female results which led to assume, females were more focused when incentives were on the table, than males. The third realization, came from the poorly female performances in one of the videos showed that had twice the duration of the other videos, and gave the assumption that users attention is affected according to the video

duration. Due to this fact, it would be interesting to conduct a future research regarding duration over quiz advertisings.

Compiling brand recognition results, three hypotheses were tested, H3, H4 and H5, as well according to demographic parameters, and three assumptions were generated. First, through testing of branding results in two distinct methods it was possible to conclude, future research should be conducted accounting both right and wrong answers, otherwise users might have an exponential focus decay when selecting brands (Peters and Bijmolt, 1997) even though other scholars beg to differ (Biswas et al., 2010; Verhaeghen et al., 2004). Brand recognition phase gave clear thoughts on several facts that led to X assumptions. The clearest one was the confirmation of H3. In other words users had better brand recognition in all brands regarding videos showed during quiz categories, compared with non-quiz. The brand "*Casa dos Segredos*", put at the end of the branding options of the survey, was a test control used confirm whether users were not being affected by the options order. This test contradicted prior research (Peters and Bijmolt, 1997) which gave the impression that it would be interesting to recreate the branding recognition experimental phase, shuffling all question category brands, to see if the effect would still be an exponential decay. Concerning participants with ages between 18 and 30 years old, female users confirmed H3, H4 and H5; however male subjects, who had worst performances than females, did not confirm H4 and H5.

This fact, led to assume male subjects, got bored from the experiment itself which led to believe it would be interesting to conduct future research concerning which drivers influence brand recognition for males and females. Participants with more than 30 years old, demonstrated a significant positive attitude towards H4, meaning they had better brand recognition over brands inserted in categories, according to users interests. This fact gave the assumption that users with more than 30 years old have a positive attitude over ads according to their interests, and gave the impression that it would be interesting to conduct this experiment with a more reliable sample to understand

whether this assumption is true or not. This work research was developed to assess what was the best method to construct a business model and understand if it would be well received and needed in nowadays society. Feedback phase was built into five survey questions, grounded in the theory of planned behavior. The theory demonstrated the best way to predict whether participants would be interested in playing a game with this business model idea. Two questions rated the element attitude from TPB, meaning they showed users' opinion about the business model. First question, "Idea", showed, in a scale from 1 to 5 if, in the eyes of the users, this business model would be a good or bad idea. The results gave the impression; users were open to the idea, being the majority of votes 4 and 5 out of five. "Time", demonstrated that the majority of users would play this game in a moderate amount of time, rating 3 out of 5. Both questions reflected a good indicator that users would look at this game with a positive intention to play it. The other questions demonstrated the outcome of the element Perceived Behavior Control (PCB), which referred users' opinion on whether using this game would be difficult or easy to implement in their lives. Question, "Disposition", demonstrated that users thought this type of business model would better received if it would offer incentives for their attention or targeted ads but also with offering of incentives. The next question concluded that, on one hand, male users would prefer to use this app less than five minutes a day, to reach 10 euros at the end of the month. On the other hand female users, revealed they would be willing to play between 5 and 10 minutes per day, which led to assume female users would be more patient to reach a prize than male subjects. In the same question another important assumption was revealed. The study concluded NS participants would be less open to the scenario of having to play the game more than 5 minutes a day, compared to CS. In the last question users were almost unanimous choosing Smartphones as the best platform to execute this business model. Summarizing, PCB answers showed that users would be more keep on playing game if it have incentives and targeted ads to offer and

if it was implemented in smartphones. Additionally, in case the goal was to reach both genders, PCB, concludes that, in order to reach a 10 euro prize, at the end of the month, users should only need to play 5 minutes a day.

This experiment explored a new advertising method and developed a theoretical model to better understand the inclusion of an advertising quiz structure and the inclusion of strategies such as incentives and targeting ads. This made the impression, that it would be interesting for the next step to be the developing of a mobile app prototype, to test the idea in a real market, and actually prove the business model.

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APPENDIX I – Quiz Simulator and brand recognition tools and procedures used

Google forms helped transfer data to excel file, with the tool button, named “View responses in Sheets”. This tool processed information to a Google sheets file, which facilitated the transfer to the custom built Excel file. The excel file was divided into five sheets, “Raw Data”, “Responses”, “Results”, ”Graphics” and “Stats”. This excel file then suffered modifications, as it added two more sheets for the Brand Recognition results “Raw Data Brand Recognition” and “Brand Recognition Results”, discussed further bellow.

1. Raw Data

“Raw Data”, was chosen to paste all data from Google Sheets. To structure all data, a table was created, with a header row selected, in order to better organize the information.

Raw data table began, with the insertion of the time of response followed by age, gender, occupation and email. As for the answers to the questions the title of the columns was the respective questions. The last columns of the table were for feedback questions. Data was not altered in any way from google sheets file.

2. Responses

The next sheet created was “Responses” sheet. This sheet was composed through a single table and was created to compile all answers users gave, and figure it out which ones were correct and which ones were incorrect.

2.1.Structure

The table started by replicating in the first columns, with its respective headers, the age, gender, occupation, for control purposes. After that, the table focused its efforts, representing every question of the second phase, using the columns’ header for that purpose. The second and third rows were used to represent the question type and the right answer for the respective question. For control purposes, feminine answers were in the third row and masculine were in the second, meaning the question type were in the other respective row. Additionally for control, masculine question type were in color blue and feminine were in skin color.

2.2.Method

The method used to compile all the answers, was a binary code of “0”’s and “1”’s, being “0” wrong and “1” right, using answer cells, in the second or third row, to check. At the end of the table, a total row was added to sum all answers. Was important to highlight all question responses had a “0” or a “1”, even if the applicant was not allowed to answer. In other words, male subjects only responded to male questions and all their female questions were automatically assumed as a “0”. On the other hand, female subjects had the opposite event, meaning all the male questions were “0”.

2.3.Results

The next sheet, “Results”, and was created to find out if applicants were able to win or not the prize for the “QUIZ game with PRIZE” category in the game. Additionally, this sheet was used to compile “Feedback” data, mostly into circular graphics in the next sheet, “Graphics”, showing percentages of choices available, which gave a better visualization on results for the third phase of the experiment. Like the others, data was put together in a single table, with a header row on the top and a Total row on the bottom, where first columns were used to organize profile information, gathered in first phase of the experiment.

2.3.1. **Personal information**

The table began with the date when users participated in the test, and followed with their email, age, gender and occupation, which was copied from “Raw Data” first columns.

2.3.2. **Questions**

As for questions, they were presented in four groups, “QUIZ with interest” (QI), “QUIZ without interest” (QWI), “PRIZE QUIZ with interest” (PI) and PRIZE QUIZ without interest” (PWI). These groups resulted from the sum of binary sums conducted in the “Responses” sheet. Each group was composed by male and female results summed together. For example, the first group was composed by the two first female questions of the first category, “QUIZ GAME”, associated with questions directed to users’ interests, added with the two first male questions of the same category.

2.3.3. **Win/Lose**

The last column of the table was reserved to see if users actually won. This column was created with a simple IF formula, figuring out if the sum of the last two groups PI and PWI was equal to 12. In the outcome of a TRUE sentence the result would print out a "WON" in a green cell. However if the sentence turned out to be FALSE, the result would be "DID NOT WIN" in a red cell. This way the result would be more visual and practical to understand.

2.3.4. **Total Row**

The total row in the bottom was used to find the average of right answers in each group, and was used to formulate the percentage of right answers, on the column beneath, dividing the average result by 6, the total number of right answers possible.

2.4. Graphics

The next sheet, "Graphics", was used to compile data generated from last sheet, "Results". The sheet was composed of ten graphics, three concerning users profile, five related to users' feedback responses, one graphic showing the winning results and one showing, question category performance comparisons.

2.4.1. **User profile**

The first three graphics were created to have a better visual at statistical analysis over users' profile, concerning their age, gender and occupation. These graphics were all

structure the same way, starting with a table, generated for each profile parameter, followed by a formula, showing percentages of every choice available. Graphics were all circular with "Chart Title", "Data Labels" and "Legend". The formula used was a simple COUNTIF statement, divided by another COUNTIF statement to count all cells with text ("*"). The choice of a circular graphic fell into the fact that options were all independent, making them easy to comprehend in a circular structure.

2.4.2. **Feedback**

The next five graphics were intended to picture the users' choices, during feedback phase. All five used the same method, starting with a table, pointing out the percentages of users' choices, followed by the respective graphic. However the graphics were not all in the exact same structure.

2.4.3. **First and Third graphics**

The first and third graphics, concerning the "Idea" and "Time" choices, were designed as a clustered column graph, with "Title", "Data Labels" and a "Data Table". This structure gave a better way to comprehend the results, as these data ware established as linear scale questions, therefore it was important to structure in a linear graphic with clustered columns.

2.4.4. **Second and Forth graphics**

Regarding second and forth graphics, choice was also on circular graphics, as the choices were independent, therefore the structure was same as the graphics for users' profile options, circular with "Title", "Label" and "Legend".

2.4.5. **Fifth graphic**

The fifth graphic, “Implementation”, used a different structure from the other ones. Due to the fact, this data was generated through a checkbox question, none of the graphics used would be a better suit to visualize the data and have the best judgment. With this type of question, users could have multiple choices at the same time, including users’ own suggestions, which can result in tiny percentages of custom users’ choices. Therefore, the best way to generate this results was through a clustered bar graphic, with a “Data Table”, for better visualization of all options, “Horizontal Axe” “Title”, “Label” and “Legend”.

2.4.6. **Win/Lose graphic**

The graphic, concerning the Win/Lose evaluation, was constructed as a clustered column with a “Label” and a “Horizontal Axis”. The graphic also was built with a green color for the “WIN” status and a red color for the “DID NOT WIN”.

2.4.7. **Categories graphic**

The last graphic, showed a comparison between question categories’ performances. The graphic was structured as Win/Lose graphic, and was intended to demonstrate which question category had the highest and lowest rate of correct answers. This “category” graphic displayed a color red on the column representing the worst performance and green on the highest performance.

3. Stats

Last but not least, the "Stats" sheet was the last one to be constructed and its main function was to interrelate variables used, try to find out a correlation between the results, spot any anomalies and ultimately takeout, biased inputs. In order to achieve that goal, two distinct tables were created to evaluate the numbers. The first table was built to assess performance, according to gender, gender for each age and occupation, within every question category group, from "Results" sheet, QI, QWI, PI and PWI. The second table was constructed to assess performance according to age, occupation and gender, within every single question of the second phase, computed in the experiment. Analyzing it more further, the tables' execution was divided into small portions, in order to be meticulously explained.

3.1.First Table

Starting with the first table, it was wise to divide it in three groups, gender group, age group and occupation group.

3.1.1. **Gender group**

The first group, gender, was constructed to understand the numbers relative to males and females in each category group from the "Results" sheet, and find out if there was any significant discrepancy, comparing both genders' performance in any category. The table had two significant rows, one for each gender, and eleven significant columns, one for the number of participants, two for each of the four categories and two for the total, being the first a total and the second a percentage.

3.1.1.1. **Participants column**

The first column represented the absolute number of participants in the study, for each gender. The formula used was a COUNTIF, using the table gender from the "Results" sheet.

3.1.1.2. **Category columns**

The second part columns, which encompassed all four categories, presented each category in two columns, one representing total right answers and the other representing percentage of right answers, in percentage format. The formula used to reach the total number was a SUMIF, using the values of the gender data as range and the values of the respective category data as the SUM range, located in the "Results" sheet. As for the percentage values, a simple multiplication/division calculation was made, dividing the Total right answers for the number of participants, in the first column, multiplied by 6, which represented the maximum correct answers possible. These formulas were composed in the same way for all the categories.

3.1.2. **Age group**

Moving on to the second group, its objective was to conjugate numbers, referred to males and females, within their age range, inside each questions category. Likewise, the main goal was to find out if there was any significant discrepancy, comparing both performances, within the combination of age, gender and category variables. The group was structured the same way as the first group, being the columns exactly the same. As for the rows, the group had nine significant rows, organized in three groups, one for

each age range. Each group's row started with a total of an age range, followed by the age range for each gender.

3.1.2.1. **Participants column**

Regarding formulas used to assemble the numbers, the first column, "participants", was constructed with a COUNTIF in the first row, with the age range, and a COUNTIFS for the second and third rows, with one of the ranges as the age and the other the gender, all collected from the "Results" sheet.

3.1.2.2. **Category Columns**

Concerning columns related to question categories, the first row numbers were targeting how many correct answers (in absolute and percentage numbers), were achieved for a determined age range. As for the second and third rows, the goal was to target how many correct answers were achieved for a determined age range, but for each gender. For the formulas, in the first row, a SUMIF was used with a range as the ages' column and a sum range as the column for questions of the intended category, all collected from the "Results" sheet. The second and third rows values used a SUMIFS formula, with sum range as the column for the category questions, and two criteria ranges, age and gender, all collected from the "Results" sheet as well.

3.1.3. **Occupation group**

The third group, occupation, had the same objective as the other two groups, find significant discrepancies, but this time just by assessing the users' performance in each

category, according to their occupation response. Just as the other two groups, this group had the same columns structure, having just three rows, one for each occupation option. The values in category columns were meant to represent the total number of right answers, for a determined occupation (in absolute and percentage values). Concerning how the formulas were generated, the group had the same formulas as the first group, "gender", using for the first column a COUNTIF and for category columns a SUMIF, differing just in the range option (occupation column from the "Results" sheet). The third columns, for the totals, represented the sum of every correct answer for each category, and the percentage was also referred to each category matched together, so that it would show the performance difference between male and female as total.

3.1.4. **Color**

Throughout the whole table, all percentage values were formatted with a color scale option, meaning all percentage values would be compared in terms of value, and assigned a color, in accordance. The scale ranged values from 0% to 100%. The closer the values were to 0% the redder the color, on the other hand, the closer to 100% the greener the color. By choosing this conditional color option, results were much more simple and easy to view and understand, in the big picture.

3.2. Second table

The second table in "Stats" sheet, represented users' performance in every single question, according to its age, occupation or gender, separately. The table had eight rows, three representing age variables, other three for occupation variables and the last two represented male and female genders. As for the columns, each question had two

columns assigned to them, one for the total values and another for the percentage values, and above, occupying both columns, the question written, with its respective question number, beneath it.

3.2.1. **Total Values**

This time all formulas for the total columns were in the same structure. The formula used was a SUMIF function with the range, in a structured reference for the respective row value, with an INDEX function inside the SUM range section. Furthermore, INDEX function, had an array representing every question, with a "0" for the column and row and the number of the area represented, as the question number in the table. Is important to highlight that each array, for the questions, followed a structured reference, in order to be a fixed value and be easy to extend to the rest of the columns.

3.2.2. **Percentage values**

Regarding percentage column values, the same formula, used for the total value, was divided by the total value possible to reach. For this denominator, a COUNTIFS function was constructed, with the respective criteria column as first range, and the gender column with the criteria, respective to questions' gender. In other words, this formula gave the possibility to isolate the correct answers for a specific question within specific criteria, like age, occupation or gender. For example, in the first question, for the non-student criteria, the formula would need to create a SUMIF, with the "Occupation" column from the "Responses" sheet, with a structured reference, and the criteria would by the row cell in the actual table, "Non-Student". The SUM RANGE, would start with an INDEX function, with an array with all questions from the

“Responses” sheet, with column and row equal to ”0”, and the area code equal to the number of the respective question, located in the actual table (in this case would have been “1”). As for the percentage value, the formula would continue by dividing everything by the function COUNTIFS, where first range would be the occupation column, from the “Responses” sheet, the first criteria would be the respective row cell in the actual table, “Non-Student”, the second range would be the gender column also located in the “Responses” sheet, and its criteria cell would be the gender of the respective question, in this case “Female”, found on top of the actual table along with the question.

4. Brand recognition data collection

One month later, a new survey was sent to participants, in order to understand how recognition was conducted for quiz and non-quiz questions and how was the difference in brand recognition performances for each category, concerning each demographic parameter in the study. The survey was constructed with Google forms platform, and was composed by three sections, one to introduce the survey and the other two were the respective brand recognition section for each gender.

4.1. Introductory section

The Introductory section, where the survey was explained, asked two questions, email address and gender. Email address was asked, in order to associate demographic parameters, questionnaires and feedback with brand recognition. Email address was the main channel used to reach out subjects from the first experiment, however

Facebook was also a channel used for the same purpose in order to have more responses. Gender was asked, in order to transport users to their own brand recognition page, as each gender had its own brand recognition section.

4.2. Brand recognition sections

As for the brand recognition sections they were compiled in a checkbox format where users were demanded to only check-in brands they remembered. Brands were put together in the same order as they were in previous questionnaires, and they were not advised of this detail. The idea for this order was to get users more familiar with brands in order for them not to give up on the quiz right away. Each brand had one or two rival brands along in the list, to understand if subjects really remembered brands or they just checked every brand. The goal was to get rival brands that would prove users really remembered brands from the first experiment but, at the same time, that wouldn't be too extensive for them to lose interest. Prior research stated that when brands are showed in chronological order, the first brands to be presented have better brand recognition than last ones (Peters and Bijmolt, 1997). Due to the concern of participants choosing brands in an exponential decay, one brand was out of its chronological order to serve as a control device. The brand chose for this purpose was "*Casa dos Segredos*" along with two rival brands "*Peso Pesado*" and "*Ídolos*". These brands were put in the end of the checkbox list with the "Commercials with no game" category, even though they were part of the category PWI.

5. Brand recognition data compilation

As previously mentioned, the excel file used in the first experiment suffered modifications some modifications. Results were compiled in the same excel sheet, used for the first experiment. For brand results, two new sheets were created, one to compile raw data from the Google forms platform, named "Raw Data Brand Recognition", and another sheet to compile the results in tables regarding the users' performances and demographic parameters, named "Brand Recognition results".

5.1. Raw Data

Raw data was compiled into a table with five columns, timestamp, email, gender, male responses and female responses. Each individual's responses were put in a cell, separating every chosen brand by a comma. Raw data had to be filtered, due to the fact that not everyone who responded to the second survey responded to the first. This event happened because of some individuals that were contacted via Facebook and decided to participate in the second survey without participating in the first one. Without cutting them out, these individuals would've biased the results, as they would've responded completely random brands.

5.2. Brand recognition results

"Brand Recognition results" sheet, was divided into three parts, results performance table, brand recognition tables for the demographic parameter gender, and brand recognition tables for the remaining demographic parameters, age and occupation.

5.2.1. **Individual brand recognition results**

Starting with the first table, it was constructed to compile each individual answer and was constituted by several column groups. The first column was responsible to cut out subjects that did not participate in both experiments. In order to cut them out, a column was constructed with a formula responsible to match raw data from "Raw Data" sheet with raw data from "Raw Data Brand Recognition". This formula consisted in an IF formula with a COUNTIF inside to count how many emails from the second test corresponded to the emails from the first test. If the answer were more than zero a "YES" would appear in the cell, otherwise a "NO" would appear. This way it was possible to rule out the "impostors" responsible for the biased results. The second e third column ware responsible for showing the email used in the previous formula and subjects' gender. The next columns, showed every brand from the survey. The goal of these columns was to register which brands were chose by each individual in way that would facilitate later the comprehension of the results. In order to do so, each cell would have an absolute number from "1" to "-1", being "-1", a wrong brand that users chose, "0" a brand that was not selected by the user and 1 a correct brand that users chose. In order to reach the correct number to be assigned to each cell, an IF formula was constructed with, INDEX and MATCH formulas attached. The next two columns registered the two other demographic parameters, age and occupation. The last group of columns, presented results, grouped by category, QI, QWI, PI, PWI, "no game with interest" (NGI) and "no game without interest" (NGWI). These columns were constructed with a simple SUM formula, summing both right and wrong brands, and their purpose was to facilitate the results compilation according to users' demographics. In order to reach the correct number to be assigned to each cell, a complex IF formula was constructed. The goal of this formula was to capture a specific text within a cell, meaning it needed to capture the name of the brand inside all choices that were

separated by a comma. For that the function ISNUMBER was used to find the name of the corresponded brand. After that, an INDEX function was used to search for the responses column, respective to their gender. The Match used the email column, from the previous table, to match all values. In the end if the logic value were true, the number "-1" or "1" would be assigned, depending if the brand was correct or incorrect. Otherwise, if the IF function retrieved a false value, the number "0" would be assigned.

5.2.2. **Demographic brand recognition results**

Brand recognition was assessed by gender, age and occupation and was created to try to find out a correlation between each category and ultimately find a correlation with results from the previous experiment.

5.2.2.1. **Gender group**

Two tables were constructed to evaluate brand recognitions' performance, according to gender. The reason why two tables were created came from the uncertainty how results should be summed. These tables addressed the fear of biased results from users that would select every brand available even if they were not sure they the brand appeared. These tables, were constructed to understand the numbers relative to males and females in each category group from the previous table, and find out if there was any significant discrepancy, comparing both genders performance in any category. The table had three significant rows, one for each gender and one for the total and had six significant columns, one for each category. All results were presented in percentage. Depending if the results demonstrated an exponential decay or outrageous results, one of the methods would be chosen to compile the other tables. Due to the chronological

disinterest showed in the table with only the correct brands, the table chosen was the one with both correct and wrong answers. This choice was analyzed and discussed further bellow.

All results were presented in percentage. The first table demonstrated results, summing only correct brands and the second table summed both right and wrong results. Both presented a straightforward SUM formula, where each brand was selected according to its category. The SUM was divided by the number of brands assigned to each category.

5.2.2.2. **Age group**

Moving on to the second group, the age group, its objective was to conjugate the numbers, referred to males and females, within their age range, inside each questions category. Likewise, the main goal was to find out if there was any significant discrepancy, comparing both performances, within the combination of age, gender and category variables. The group was structured the same way as the first group, being the columns exactly the same. As for the rows, the group had nine significant rows, organized in three groups, one for each age range. Each group's row started with a total of an age range, followed by the age range for each gender.

The formula used to reach the total number was a SUMIF, using values of age data as range, and values of the respective category data as the SUM range, located in the previous table. After that the value would be divided by a COUNTIF formula with the same age range for the respective criteria. These formulas were composed in the same way for all the categories.

The formula, presenting results for each gender, was similar, adding just other criteria, "gender", both to the SUMIF and COUNTIF, transforming this way the SUMIF in a SUMIFS.

5.2.2.3. **Occupation group**

The third group, occupation, had the same objective as the other two groups, find significant discrepancies, but this time just by assessing users' performance in each category, according to their occupation response. Just as the other two groups, this group had the same columns' structure, having just three rows, one for each occupation option. Values from category columns were meant to represent the total number of right answers, for a determined occupation (in absolute and percentage values).
Concerning how formulas were generated, the group had the same formulas as the first group, gender, using a SUMIF and dividing it by COUNTIF, differing just in the range option (occupation column from the previous table).

5.2.3. **Color**

Throughout the whole table, all percentage values were formatted with a color scale option, meaning all percentage values would be compared in terms of value, and assigned a color, in accordance. The scale ranged values from 0% to 100%. The closer the values were to the 0%, the redder the color. On the other hand, the closer to 100%, the greener the color. By choosing this conditional color option, results were much simpler and easy to view and understand, in the big picture. The table, representing the other brand recognition demographic parameters, age and occupation, was designed in two shapes, one to compare each demographic parameter group, within each category, and another to compare each demographic parameter, within one category. This difference was captured by conditional formatting by color scales, being the first assigned to the whole table and the second assigned for each category column.

APPENDIX II – Results for unaltered version

All results were compiled into graphics and tables in order to better visualize the results. Tables showed number of participants for each parameter, in an absolute and percentage format. Each result had a distinct purpose, which gave them relevance and significance throughout the experiment.

1. Stats Sheet – Category results

Analyzing the first table, from "Stats", all the results were compiled divided by categories, "QUIZ with interest", "QUIZ without interest", "PRIZE QUIZ with interest" and PRIZE QUIZ without interest", and analyzed according to their gender, age range and occupation.

1.1. Gender

Gender	Participants	QI		QWI		PI		PWI		Total	
		total	%	total	%	total	%	total	%	total	%
Female	83	434	87%	386	78%	464	93%	463	93%	1747	88%
Male	77	409	89%	385	83%	375	81%	411	89%	1580	85%

TABLE 17 - Gender concerning each category - unaltered version

Starting with gender in TABLE 17, the goal was to evaluate the performance of right answers, according to the participants' gender throughout every category and find if there was a relevant disparity, comparing both male and female results. Likewise, this

table permitted a single evaluation for every gender in each category which was beneficial to spot any unordinary discrepancy.

1.1.1. **Total**

Looking at the results, there was a small difference in total results, which gave female audience an 88% of right answers, opposing to only 85% for the males. These numbers themselves were not significant, as the difference between them was not relevant.

1.1.2. **Quiz questions with interest**

Results also were not significant, as the difference between male and female in the category was 2%.

1.1.3. **Quiz without interest**

Results in this category demonstrated a decrease against the previous category, with females decaying their percentage to 78% of right answers and males having also a slight decrease to 83%. These numbers might have meant individuals were not as focused in generic commercials as they were on commercials, according to their interests, which went according to H1. According to this number, H1 seemed more plausible for female audience than male audience, as females had a decrease of 9% and males had only 5%, giving the female number the lowest in the whole table. Another reason might have been the difficulty on some commercial questions that could've decreased the percentage of correct answers.

1.1.4. **Prize quiz with interest**

This category**,** in theory, would have been the category that should've gotten the best results for both genders, as it would accept H1, and H2. Although numbers did not correspond with the expected results, as the number, concerning male percentage, was the second lowest in the table, with 81% of percentage of right answers. Looking at the female number, it was visible the upgrade against the other numbers, registering one of the best percentages in the table. When compared with QI, it was possible to visualize an increase in percentage of right answers for female gender, of 6% increase over the non-incentive category. This higher difference, which confirmed H2, only happened in female, which did not go according to expected. Several ideas might have helped understand the numbers, starting with the fact that only male gender numbers ware not according to what was expected, meaning it could have been because of a question that was not completely understandable or was significantly more difficult. However another idea to explain could have been the fact that this questionnaire was to extent for participants to be fully 100%, focused, or that the offering of a chocolate as an incentive was not a sufficiently good reason to focus. Nevertheless, this idea does not explain female numbers.

1.1.5. **Prize quiz without interest**

This category presented results that went according to H1 and were not according to H2, meaning that, compared with PI, numbers were higher, which was not expected. The table showed a 93% on the female audience, which resulted in an equal percentage as PI. As for the male gender the number was much higher than PI, with an 89% percentage in correct answers, which translated in an 8% increase. Nevertheless these results were significantly better than QWI, which was in accordance with H1.

1.1.6. **Overall conclusion**

Results were not according to what was expected. PI seemed disconnected and biased because of the number in the male gender. However it was possible to see a pattern in accordance with H1 and H2, on the female gender…

1.2. Age

Concerning the age parameter, three tables were created for each age range, <18, 18-30 and >30. Again each table had the same goal as the previous table; assess performances of right answers, according to the participants' gender throughout every category. This way, tables allowed a thorough evaluation of both genders in each category, which was beneficial to spot unordinary discrepancies and bugs in the data compiled. In every table besides each gender, the total results were also compiled to understand numbers of each category looking at both males and females combined.

1.2.1. **Less than 18 years old**

Age	Participants	QI		QWI		PI		PWI		Total	
		Total	%	Total	%	Total	%	Total	%	Total	%
<18	9	46	85%	47	87%	53	98%	53	98%	199	92%
Male	4	22	92%	22	92%	24	100%	24	100%	92	96%
Female	5	24	80%	25	83%	29	97%	29	97%	107	89%

TABLE 18 - Ages younger than 18 years old concerning each category - unaltered version

There was a small sample for this age range, 9 participants, which led results, on TABLE 18, not to be reliable to assess any kind of meaningful conclusion. This numbers

only corresponded to 6% of the whole experience, (FIGURE 5). On top of that, there was a small difference in total results, which gave male audience a 96% of right answers opposing only 89% for females. These numbers themselves were not significant, as the difference between them was not relevant. That being said, the numbers were according to H2 but were not according to H1. Analyzing TABLE 18, it was possible to see a huge difference between the two first categories and the last two, in terms of percentage of correct answers, enhanced by the colors red and green. Looking at the total numbers in the non-incentives categories, the average on both categories was 86% while the average for the two incentive ones was 98%, which resulted in a 12% increase for the incentives. However the H1 was not corroborated, as numbers directed to individuals' interests and non-interests were almost exactly the same, being the prize one exactly the same. Nevertheless, it is important to highlight that these numbers had a very small sample and so, were not viable for any conclusion.

1.2.2. **Between 18 and 30 years old**

Age	**Participants**	**QI**		**QWI**		**PI**		**PWI**		**Total**	
		Total	%	Total	%	Total	%	Total	%	Total	%
18-30	134	709	88%	641	80%	697	87%	728	91%	2775	86%
Male	64	341	89%	318	83%	309	80%	341	89%	1309	85%
Female	70	368	88%	323	77%	388	92%	387	92%	1466	87%

TABLE 19 - Ages between 18 and 30 years old concerning each category - unaltered version

This age range corresponded to the core audience of the experiment, therefore, these results, in TABLE 19, allowed to best describe, data outcome, and led to meaningful conclusions, on whether H1 and H2 were or not confirmed.

1.2.2.1. **Total**

Looking solely at the total value there was a small difference in the total results that gave the female audience an 87% of right answers opposing only 85% for the males. These numbers themselves were not significant, as the difference between them was not relevant.

1.2.2.2. **Quiz with interest**

The results also were not significant, as the difference between male and female in the category was only 1%.

1.2.2.3. **Quiz without interest**

The results in this category demonstrated a decrease against QI, with females presenting a decrease to 77% of right answers and males having also decay to 83%. These numbers might have meant individuals were not as focused in generic commercials as they were in commercials according to their interests, which went according to H1. Regarding this number, H1 seemed more plausible for the female audience than the male audience, as females had a higher decrease of 11% and males had only 6%, giving the female number the lowest in the whole table, same as the TABLE 17, presenting gender. Another reason might have been the difficulty of some commercial questions that could've decrease percentage of correct answers. Nevertheless, the results of these two first tables confirm H1, with an 8% decrease in percentage of correct answers for the non interest category.

1.2.2.4. **Prize quiz with interest**

This category in theory was the one that should've gotten the best results for both genders, as it should have been accepting H1, and H2. Although, the numbers did not correspond with the expected, as the number, concerning the male subjects, 80%, had a decay of 9%, over QI, which led to a disagreement with H2. Looking at the female number, 92%, it was possible to observe one of the highest values registered in the table. When compared with QI, it was possible to visualize an increase in percentage of right answers for the female gender, of 4% increase. This higher difference, which went according to the H1 and H2, only happened in the female, which did not go according to expected. A fact that might've helped comprehend this results, could've been the fact that only the male gender numbers were not according to what was expected, meaning it could've been because of a question that was not completely understandable or was significantly more difficult. However another idea to explain could have been triggered by the questionnaire that was too extent for participants to be focused 100% all the way, or that the offering of a chocolate as an incentive was not enough to focus participants' attention. Nevertheless this idea did not explain the female numbers.

1.2.2.5. **Prize quiz without interest**

This category presented results according to H1 but not according to H2, which meant that, compared with PI, the numbers were higher than expected. The table showed a 92% on the female audience, which resulted in an equal percentage as PI. As for the male gender the number was much higher than PI, with an 89% percentage in correct answers, which translated in a 9% increase. Nevertheless these results were significantly better than the other QWI, which was in accordance with H1.

1.2.2.6. Overall conclusion

The results were not according to what was expected. PI demonstrated results which led to believe they were disconnected and biased due to the male gender cells. However it was possible to see a pattern in accordance with H1 and H2, on the female gender. Another important fact to highlight was the similarity between the numbers from this age range table with the overall gender table numbers. The difference between these two tables was small due to the fact that this category represented almost all participants from the experiment, 84%, as presented in FIGURE 5.

1.2.3. More than 30 years old

Age	Participants	QI		QWI		PI		PWI		Total	
		Total	%	Total	%	Total	%	Total	%	Total	%
>30	17	88	86%	83	81%	89	87%	93	91%	353	87%
Male	9	46	85%	45	83%	42	78%	46	85%	179	83%
Female	8	42	88%	38	79%	47	98%	47	98%	174	91%

TABLE 20 – Ages older than 30 years old concerning each category - unaltered version

Same as the category <18, the sample was too small to have any meaningful conclusions for this age range, however it still had almost double of the "18" category, which ultimately represented an 11% of the overall percentage. Therefore, results were assessed and explained the same way, with an overall approach over its performance for H1 and H2, in TABLE 20. Looking just at the total results, there was a significant difference that gave the male participants an 83% of right answers opposing only 91% for the females. These numbers could've meant that male audience, >30, was not keen on the quiz questionnaires, compared with the female audience. Looking at the

numbers on the male side, it was difficult to spot a pattern that either H1 or H2. The first two categories went according to H1 with a 2% decrease from QI to QWI. As for the other two prize categories, there was a huge increase of 7% from PI to PWI, which went completely against H1. Also regarding H2, there was the decay of 7% from PI to PWI, which result the opposite of H2. Concerning female results, also only one hypothesis was confirmed, H2, and with fly color values having in both interest and non-interest a huge increase in percentage of corrected answers. Both prize categories had the same result, 98%, which led to believe females over 30 years old were more focused when the possibility of incentives were offered for their attention. As for H1, it only manifested positive in the non-incentive category. Nevertheless, it was important to highlight that this age range had a very small sample which made them not viable for any conclusion, as the <18 range.

1.2.4. **Overall conclusion**

Comparing the three tables, it was possible to construct three conclusions along with some assumptions. First, the younger audience was keener on the gaming method, and seemed to try harder to answer correctly every question. Secondly, in the >30, female participants seemed more inclined to focus on questions where their attention would have the possibility to be rewarded with an incentive. However these two conclusions lack of reliability, as both these categories represented only a small sample of the whole test. Lastly, the main conclusion from these tables came from the cells responsible for male results in PI. This table presented in all cells an awkward number, and against both H1 and H2. The surprisingly low number might have resulted from a question that was unevenly more difficult than the normal or even a question that was confusing that might have misguided male participants to the wrong answer. Nonetheless, looking at

the numbers in TABLE 18, the male 100% in this category led to believe that the question was possible to answer correctly, however it might have been too difficult to answer correctly, and needed a higher effort to have a positive outcome.

1.3.Occupation

Occupation	Participants	QI		QWI		PI		PWI		Total	
		Total	%	Total	%	Total	%	Total	%	Total	%
HS	20	99	83%	101	84%	105	88%	108	90%	413	86%
CS	92	496	90%	445	81%	486	88%	508	92%	1935	88%
NS	48	248	86%	225	78%	248	86%	258	90%	979	85%

TABLE 21 - Occupation parameter concerning each category - unaltered version

TABLE 21 was constructed to evaluate the performance of right answers, according to the participants' occupation throughout every category and find if there was any relevant deviation from the expected results. Looking at the numbers in FIGURE 7, it was possible to confirm that the majority participants came from CS, 58%, and almost a third, 30% were NS. This facts permitted a fair comparison, TABLE 21, between these two occupations, leaving HS with 13%, which made them less reliable to have firm conclusions.

1.3.1. **Total**

There were no significant differences to build upon any discoveries. Nonetheless, the total value of CS, 88%, was still 3% better than NS, 85%, which could have meant non-students demonstrated fewer attitudes towards the quiz format questions, comparing with CS, or even lack of attitude towards commercials altogether.

1.3.2. **Quiz with interest**

Looking at this category, the first number that popped up was the HS, 83%, which was 7% less than CS and 3% less than NS, however HS numbers were somewhat biased by the lack of participants. Comparing CS with the NS, it was possible to see the same pattern as seen on the totals, giving the impression that NS cared less.

1.3.3. **Quiz without interest**

From this category it was possible to see the confirmation of H1, as the percentages of correct answers for both CS and NS, decreased by 9% and 8% respectively, which gave the impression that when the commercials were directed to the audience their focus would improve. It is important to refer that the results from HS were not according to expected, however, as previously mentioned, this results might have been biased from the start due to the small sample of data.

1.3.4. **Prize with interest**

From this category, results were not as expected, as they should have confirmed H2. However, H2 was dethroned, due to the fact, CS value, 88%, was 2% lower than its PI, and the NS value turned out to have the same value, 86%. These phenomena might have been explained by the results from the previous tables, due to the "outsider" value from the male sample. This time the HS value was according to what was expected, as its value ramped up 5%. Nevertheless, this positive result couldn't be trusted, due to the reasons already mentioned previously.

1.3.5. **Prize without interest**

This last category showed that results were according to H2 but were not according to H1. On one hand, H2 was confirmed, as QWI party ware clearly less accurate than PWI, with an increase of 6%, 11% and 12% for the HS, CS and NS, respectively. However, H1 was not confirmed, as PWI, 90%, 92%, 90%, suffered an increase over PI, 88%, 88%, 86% for the each occupation in the same order.

1.3.6. **Overall conclusion**

The results matched the same outcome of the previous categories, and gave the same sensation that something was off the expected normality.

Comparing the three occupation results, it was possible to construct two plausible conclusions, and some assumptions. First, it was visible the difference between CS participants over NS, as the CS performance was better in all categories, which led to believe that this type of advertising method would be better suited for CS over NS. This fact could have meant, NS probably earned their salary, which could have influenced their attitude towards such strategy, giving it a less enthusiastic posture when compared to CS. Lastly, the main conclusion from these tables came from the cells responsible for the male results in PI. This table presented in all cells an awkward number, which was against both H1 and H2. The surprisingly low number may have resulted from a question that was unevenly more difficult than the normal or even a question that was confusing that might have misguided male participants to the wrong answer.

2. Stats Sheet – Individual results

The second table was constructed to comprehend the performance for each question individually and this way understand if there was an unevenly number of wrong answers in any question that could've disrupted the expected results. The table evaluated each question according to each age, each occupation and each gender. Studying these numbers, resulted in two discoveries.

Question	What's the original movie title?		When is the movie premiere?		Which is the official site?	
Number	7		8		9	
	Total	%	Total	%	Total	%
<18	4	80%	4	80%	2	40%
18-30	45	64%	44	63%	25	36%
>30	5	63%	7	88%	3	38%
HS	8	89%	8	89%	2	22%
CS	26	59%	27	61%	16	36%
NS	20	67%	20	67%	12	40%
Male	0	0%	0	0%	0	0%
Female	54	65%	55	66%	30	36%

TABLE 22 - Performances of questions 7, 8 and 9 concerning each parameter - unaltered version

First, in the female sector, in TABLE 22, from PWI, a commercial video had performances significantly lower than the average, 86%, with an average of 56%. Several assumptions were deduced by this fact. On one hand, not being a question directed to female interests, it was possible not to give a strong reason for female

audience to be focus on the video, leading to an outcome of a lower percentage of right answers. On the other hand, the table, representing the video in question, showed a question that was outrageously low with only 36% of correct answers. The question, "What is the movies' official website?", was a trick question, as the obvious option (www.nowyouseemee.com) was wrong, and the right answer was (www.nowyouseemee.movie), which appeared written in the movie for about 2 seconds in the end of the movie. Another important fact which might explain these low results was the fact that this commercial had twice the duration of the others videos in the female experiment. This video with almost one minute long could have been too long for the audience in question to focus or even care, and gave the assumption users were affected with videos duration.

Question	What brand appeared?		What is the slogan?		Which was the last product?	
Number	37		38		39	
	Total	%	Total	%	Total	%
<18	4	100%	4	100%	4	100%
18-30	64	100%	57	89%	28	44%
>30	9	100%	8	89%	3	33%
HS	11	100%	9	82%	5	45%
CS	48	100%	46	96%	23	48%
NS	18	100%	14	78%	7	39%
Male	77	100%	69	90%	35	45%
Female	0	0%	0	0%	0	0%

TABLE 23 - Performances of questions 37, 38 and 39 concerning each parameter - unaltered version

The second discovery, this time was in the male sector, in TABLE 23. From PI, a single question had also a percentage lower than the average performance, 45%, throughout the experiment. However the commercial which included this question, did not have a low performance in the other two questions, 100% and 90%, which meant this might have been an isolated problem concerning a single question. Studying further this questions, it was possible to conjugate the same assumptions. The question asked which last gamma product was showed, and appeared in the last second of the video, with a duration of about 1 minute long. The answers were not written anywhere and were not spoken, they were just performed by the actor, which increased difficulty level for male participants, and might have explained this lack of positive performances.