LISBON SCHOOL OF ECONOMICS & MANAGEMENT
UNIVERSIDADE DE LISBOA

MASTER
MARKETING

MASTER'S FINAL WORK
DISSERTATION

DIGITAL ADVERTISING AVOIDANCE: A SEGMENTATION APPROACH APPLIED TO THE PORTUGUESE CONTEXT

MARCO ALEXANDRE DA CUNHA SILVA

OCTOBER - 2017

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Acknowledgments

Firstly, and most importantly, I would like to thank my supervisor, Professor Carolina
Afonso, and co-supervisor, Professor Rui Brites, for mentoring me in my most
important academic stage. Specially for believing in me, for helping me reach my goals,
for the availability, all the suggestions, constructive criticism and shared knowledge.

I also express my gratitude to my friends and colleagues, who, directly or indirectly,
supported me all the way through the end of my master degree. For all the
encouragement, patience and advice.

A big thanks to my fellow master colleagues, especially the ones that shared the same
supervisors, for all the time spent working together, for all the encouragement messages
on the most stressful times and obviously for helping me whenever I needed.

Finally, I'm tremendously grateful to my family, specially my mom, for lifting me up
when I most needed and for always making me believe in this investigation and in
myself.

Thank you all.

Obrigado.

Resumo

Com o advento da internet, os consumidores ficaram muito mais expostos à publicidade, sobretudo no meio digital. No entanto, muitos anúncios digitais têm vindo a ser ignorados, descartados, obstruídos através de *ad blockers* e, em geral, evitados. Esta realidade tem-se tornado num verdadeiro desafio para a indústria publicitária e, por isso, tem de ser considerada aquando da criação de conteúdo publicitário digital. Ainda assim, o conhecimento nesta temática é restrito, sobretudo em relação aos fatores que justificam evitar anúncios digitais, aos perfis de "evitadores" de anúncios e ao uso de *ad blockers*.

Neste sentido, o presente estudo procura entender os fatores que explicam o fenómeno referido, especificamente se a interrupção ou distração do consumidor, perceção de irritação ou personalização e preocupação com a privacidade conduzem a tal, considerando a internet como um meio único. Além disso, a investigação procura, numa tentativa preliminar, segmentar os diferentes grupos de "evitadores" de publicidade digital e ainda compreender o panorama do uso de *ad blockers* em Portugal.

Este estudo explanatório e exploratório foi realizado adotando uma abordagem quantitativa e uma amostragem não-probabilística. Os dados foram recolhidos de 536 utilizadores de internet através de um questionário *online*, posteriormente tratados com métodos estatísticos, como análises descritiva, fatorial, regressão múltipla e de *clusters*.

Os resultados confirmam que evitar anúncios é uma resposta comum, sendo mais propensa aos consumidores que os acham irritantes ou disruptivos e se preocupam com privacidade. No entanto o aumento da personalização percebida conduz à redução em evitar anúncios. Por outro lado, a distração não foi comprovada enquanto uma razão para evitar os anúncios. A análise de *clusters* sugere a existência de três tipos de "evitadores". Embora evitar anúncios seja visível em apenas dois deles, todos exibem diferenças únicas, aquando da análise das suas perceções sobre a publicidade digital e perfis demográficos. Relativamente a *ad blockers*, a maioria da amostra usa ou já os usou.

Academicamente, esta dissertação fornece conhecimentos relevantes à temática de evitar publicidade digital, os tipos de "evitadores" e o uso de *ad blockers*. Para os profissionais de publicidade, os resultados permitem uma compreensão da perspetiva dos consumidores e respostas face à publicidade digital, o que facilita o desenvolvimento de conteúdo digital adequado de forma a diminuir comportamentos de evitar anúncios.

Palavras-chave: web, evitar anúncios, publicidade digital, segmentação, ad blocking.

Abstract

With the advent of the internet, consumers became much more exposed to advertising, especially in the digital domain. However, many digital ads have been ignored, discarded, blocked with online ad blocking tools and, generally, avoided. All ad avoidance responses have shown to be a real challenge to the advertising industry and, for that, they must be taken into consideration while designing advertising content for the digital environment. Yet, knowledge on this topic, especially regarding what justifies digital ad avoidance, the profiles of ad avoiders and usage of ad blockers, is still restricted.

Therefore, the present research seeks to understand the reasons that explain the ad avoidance phenomenon, considering the internet as a single medium, specifically, if consumer disruption, distraction, perceived irritation, personalization or privacy concerns lead to it. Moreover, this research aims, in a preliminary attempt, to segment the different groups of digital ad avoiders and to understand the ad blocking use panorama in Portugal.

This explanatory and exploratory research was conducted by adopting a quantitative approach and non-probability sampling. With an online questionnaire, all data was collected from 536 internet users, which was then treated using statistical procedures, such as descriptive, factor, multiple regression and cluster analysis.

The findings confirm digital ad avoidance as a common response and indicate that consumers who find ads irritating or disruptive and are concerned with their privacy are more likely to avoid them, while a higher perception of personalization leads to reduced ad avoidance. On the other hand, being distracted was not found to be an ad avoidance predictor. The cluster analysis suggested the existence of three different groups of ad avoiders and even though ad avoidance is visible only in two, all exhibit distinct differences regarding their perceptions on digital advertising and demographic profiles. Regarding the ad blocking outlook, most of the sample was found to use or have used these applications.

Academically, this dissertation provides relevant insights to the digital ad avoidance, types of avoiders and ad blocking' theories. For advertising practitioners, the results allow an understanding of consumers' views and responses towards digital advertising, which enables the development of adequate digital content that can decrease ad avoidance levels.

Keywords: web, ad avoidance, digital advertising, segmentation, ad blocking.

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1. INTRODUCTION

1.1. Background

Consumers exposure to advertising has always been substantial, but with the advent of the internet it became more visible and intensive (Dahlén & Edenius, 2007; Rau, Liao, & Chen, 2013; Shin & Lin, 2016). This increase correlates with the growing consumption of the internet through digital devices (Constantinides & Fountain, 2008; Rodgers & Thorson, 2017), such as desktops, laptops, tablets or smartphones, where consumers are exposed to constant digital advertising messages (Bezjian-Avery, Calder, & Iacobucci, 1998; Ducoffe, 1996; Duff & Faber, 2011; Grusell, 2007; Rau et al., 2013). However, their choice and willingness to pay attention to them is what determines its efficiency and it's proven that just a minority is appreciated (Dix & Phau, 2010; Duff & Faber, 2011; Rodgers & Thorson, 2000; Rodgers & Thorson, 2017). This choice is feasible given the interactivity of the internet, which allows consumers to pull out from engaging with ads and a common reflection of this reality is advertising avoidance (Baek & Morimoto, 2012; Cho & Cheon, 2004; Ha & McCann, 2008; Prendergast, Cheung, & West, 2010).

Most ads are avoided by internet users (Cho & Cheon, 2004; Kim & Seo, 2017) and many ignore, scroll down or even stop using the internet to avoid them (Baek & Morimoto, 2012; Cho & Cheon, 2004; Rodgers & Thorson, 2017; Speck & Elliott, 1997). These negative reactions have been empowered with the design of ad blockers, which, by blocking ads from being shown on web pages, improves internet users' experience (Kelly, Kerr, & Drennan, 2010; Rau et al., 2013; Walsh, 2010). Hence, ad avoidance has shown to be a real worry among advertisers, given its potential to affect digital advertising campaigns' purposes (Prendergast et al., 2010; Rojas-Méndez, Davies, & Madran, 2009).

For being a robust problem for advertisers (Baek & Morimoto, 2012; Prendergast et al., 2010), ad avoidance has received wide research attention in the past years, particularly with the aim of exploring its causes among consumers in different media contexts like television, radio, magazines, newspapers or the internet (Cho & Cheon, 2004; Speck & Elliott, 1997). Ha and McCann (2008) and Kim and Seo (2017) even argued that internet ad avoidance is more likely to occur comparing to traditional media. Still, when dealing with the internet as an advertising medium, there is still a need for more empirical investigation to explain not only what leads to digital ad avoidance (Cho & Cheon, 2004; Rodgers & Thorson, 2000), but also in terms of gaining knowledge on the different types

of ad avoiders (Seyedghorban, Tahernejad, & Matanda, 2016) and the use of ad blockers as an ad avoidance method (Hedenblad & Knoflach, 2014).

1.2. Research Problem

The aim of this research, applied in the Portuguese context, is to explore which key factors influence consumers' decision to avoid digital advertising, considering the internet as a single and unified advertising medium and without distinguishing the different devices where it can be accessed on. Specifically, it explores if disruption, distraction, perceived ad irritation, perceived personalization and privacy concerns are positive or negative antecedents of digital ad avoidance. It also becomes essential to explore the different segments of digital ad avoiders, which is why a cluster analysis is performed using those antecedents, ad avoidance levels and demographic information (gender, age, academic qualifications and occupation). Furthermore, given the exponential growth on the use of ad blocking tools, this investigation explores the panorama of the adoption of this trending avoidance technique.

Academically, the objectives of the present investigation are to develop the understanding on digital advertising by attempting to deliver a theoretical approach that considers what drives digital ad avoidance and, at the same time, to compare its results with past academic studies. It has also the purpose of profiling and comparing the different segments of digital ad avoiders, an analysis that has never been led before, and contribute to the limited literature on ad blocking as a digital ad avoidance technique.

From a managerial perspective, this research aims to deliver value to advertisers by endowing them with insights that could allow the comprehension of the causes behind digital ad avoidance, the different types of digital ad avoiders and the ad blocking outlook. Through this, advertising players can improve digital advertising content, ensure that their message effectively reaches their target segments, reduce ad avoidance and, at the same time, adapt their strategies to combat ad blockers.

Considering this research's problems and objectives, the present investigation's questions are threefold:

1. What are the factors that lead to digital ad avoidance and which are the strongest?
2. Are there different segments of digital ad avoiders? If yes, what is their profile?
3. How is the ad blocking usage outlook among the surveyed internet users?

1.3. Academic and Managerial Relevance

Ad avoidance, by representing a strong threat to the digital advertising industry, has been a popular subject among academics and advertising practitioners.

Academically, this concept has received great attention in the past few decades and has been assessed in both contexts of traditional and modern media, including print, radio, television, social media, the internet, etc. (Baek & Morimoto, 2012; Cho & Cheon, 2004; Dix & Phau, 2010; Edwards, Li, & Lee, 2002; Kelly et al., 2010; Nyheim, Xu, Zhang, & Mattila, 2015; Prendergast et al., 2010; Rau et al., 2013; Speck & Elliott, 1997; Walsh, 2010). Most of these academic studies explored the antecedents of ad avoidance and some analysed its impact on advertising's effectiveness. Despite such valuable researches, there is still much to explore concerning the explanation of ad avoidance applied to the online context (Cho & Cheon, 2004; Hedenblad & Knoflach, 2014; Rodgers & Thorson, 2000), specially regarding the different types of ad avoiders (Seyedghorban et al., 2016) and the trending use of ad blockers (Hedenblad & Knoflach, 2014). Given these academic gaps, this study aims to contribute to a stronger understanding on what leads to digital ad avoidance, to discover the different segments of digital ad avoiders (an original analysis that has never been conducted before, to the best of the investigator's knowledge), but also to comprehend the ad blocking use panorama. Furthermore, since ad avoidance varies considering the different countries (Grusell, 2007), this study is academically relevant by exploring the concept in Portugal, where it hasn't been assessed before.

Advertising has a decisive responsibility in persuading consumers (Wolin, Korgaonkar, & Lund, 2002), yet, many of them are gradually avoiding advertising messages, specially through the adoption of ad blockers (Cho & Cheon, 2004; Garrahan, Kuchler, & Cookson, 2015; Kelly et al., 2010), which have revealed to be a real threat to the digital ecosystem (Malloy, McNamara, Cahn, & Barford, 2016). Hence, to thrive in the internet, advertisers must have broad knowledge on consumers' preferences regarding digital ads (Rodgers & Thorson, 2017; Wolin et al., 2002). Therefore, from a management perspective, this investigation provides significant insights about internet users' perceptions and avoidance actions towards digital advertising. Hence, it enables players in the advertising industry, such as advertisers or agencies active in Portugal, with an analysis that may help them to develop adequate advertising content, that correspond to internet users' preferences, for digital campaigns (Kim & Seo, 2017; Seyedghorban et al.,

2016). Similarly, it provides relevant data that supports the development of strategies that might decrease ad avoidance and the use of ad blockers (Baek & Morimoto, 2012; Cho & Cheon, 2004; Kim & Seo, 2017; Rau et al., 2013) among internet users and the different segments of digital ad avoiders.

1.4. Structure of the Study

The present thesis is organized in six chapters. Firstly, the introduction displays a brief overview of the study, defines the research problem and its academic and managerial importance. Secondly, the literature review focuses on a broad analysis of fundamental themes underlying the research problem: the advent of the internet, the evolution of advertising, digital advertising, ad avoidance and its potential antecedents, and segmentation. In the same chapter are presented the hypotheses with its fundaments. The third chapter presents the conceptual model that guides the hypotheses to be tested. The next chapter describes the methodology to be followed, addressing the research's design, strategy, time horizon, sample, scales of measurement and the data collection/processing techniques. The fifth chapter analyses the obtained results, validating or refuting the hypotheses and describing all statistical methods. The final chapter exhibits and discusses the conclusions drawn from the results, its academic and managerial contributions, limitations as well as recommendations for studies to be carried out in the future.

2. LITERATURE REVIEW

The following chapter aims to carry out a comprehensive literature analysis on this investigation's research topics, which comprise the internet, evolution of advertising, digital advertising, ad avoidance and its predictors, and segmentation.

2.1. Internet and Media Revolution

The internet has grown to be a tool used daily by many consumers (Choi & Rifon, 2002). According to a report released by We Are Social and Hootsuite (2017a), almost 4 billion people use the internet worldwide. In Portugal alone, there are currently 7,2 million internet users and 83% of them use it every day, usually for six hours via desktops or tablets and around two hours via mobile phones (We Are Social & Hootsuite, 2017b).

The so-called web 2.0 has become the greatest pillar of the internet (Mazurek, 2009) and its emergence is at utmost importance, since it embodies major challenges and

opportunities for businesses (Constantinides & Fountain, 2008). The evolution of the internet started with web 1.0, its first generation, characterized by its read-only approach and low levels of interaction (Aghaei, Nematbakhsh, & Farsani, 2012; Fuchs et al., 2010). Its succeeding stage, web 2.0, revolutionized the way millions of people communicate. Constantinides and Fountain (2008) defined it as "collection of open-source, interactive and user controlled online applications expanding the experiences, knowledge and market power of the users as participants in business and social processes" (p. 232-233) (see Appendix 1). Its interactive features eased the creation, access and sharing of content on the internet (Constantinides & Fountain, 2008), which conducted to a shift, from firms to consumers, regarding the power over communication (Rodgers & Thorson, 2017). The web 2.0 also allowed a closer relationship between companies, shareholders, business partners and specially with consumers, by facilitating the management and customization of information, giving their needs and interests (Aghaei et al., 2012; Bughin, Chui, & Miller, 2009; Constantinides & Fountain, 2008). Besides this, the web 2.0 presented companies with benefits such as lower communication costs and even an increase of customers' satisfaction and awareness concerning existing products or services (Bughin et al., 2009). Currently, even though it's not explored in this research, there is a new generation. Web 3.0's goal is to reduce the tasks and decisions of humans and leave them to the machines (Aghaei et al., 2012), promoting in this way human collaboration, businesses' knowledge and connections with consumers (Fuchs et al., 2010).

The advertising industry was an area strongly influenced by the advent of the internet (Ha & McCann, 2008; Rodgers & Thorson, 2017). In this industry, the internet, also known as new or non-traditional media (Dahlén & Edenius, 2007), radically developed into a prevailing and feasible threat to the leading position of traditional advertising's functions (Constantinides & Fountain, 2008; Edelman, 2010; Evans, 2009; Winer, 2009).

2.2. Evolution of Advertising

According to Kotler and Armstrong (2014), advertising is understood as "any paid form of nonpersonal presentation and promotion of ideas, goods, or services by an identified sponsor" (p. 478) with the main goal of "persuading the receiver to take some action, now or in the future" (Richards & Curran, 2002, p. 74). It is frequently connected to commercial actions (Estrada-Jiménez, Parra-Arnau, Rodríguez-Hoyos, & Forné, 2017) and advertisers have been extremely investing on it, since it's a method of generating

demand among existing and potential consumers (Estrada-Jiménez et al., 2017; Evans, 2009). It can be carried out through television, radio, print, internet, mobile devices, outdoor or other forms of media (Kotler & Armstrong, 2014).

Until the last decade of the 20th century, advertising was mainly conducted through television, print, radio and outdoor (Winer, 2009). These traditional channels were often characterized for their linear presentations, static scheduled content and lack of interactivity (Bezjian-Avery et al., 1998; Evans, 2009). Within this context, consumers had a passive role regarding their exposure to advertising messages and had less control over it (Bezjian-Avery et al., 1998; Schlosser, Shavitt, & Kanfer, 1999). However, the advertising panorama evolved and embarked on a process of constant transformation as a result of the emergence of a plethora of innovative information and communication technologies, mainly the internet (Dahlén & Edenius, 2007; Deshwal, 2016; Mangold & Faulds, 2009). Hoffman (2000) outlines it as a revolution, which changed people's and companies' perceptions about advertising and the media landscape. These industries continue to evolve apace, powered by all digital technologies (Rodgers & Thorson, 2017).

The beginning of a digital age, with the internet's birth, transformed the priorities and marketing policies of countless businesses and advertisers (Estrada-Jiménez et al., 2017; Marciel, Gonzalez, Kassa, Gonzalez, & Ahmed, 2016; Schlosser et al., 1999; Wolin & Korgaonkar, 2003). Since the 90s, the internet became the first truly medium after the television (Ducoffe, 1996), the fastest-growing marketing channel (Ha & McCann, 2008; Kotler & Armstrong, 2014), an important sales and distribution channel for commerce (Korgaonkar, Silverblatt, & O'Leary, 2001) and a standard source of information (Choi & Rifon, 2002). This is mainly justified by the growing change in consumers' needs and demand for online services, especially regarding the web 2.0 (Constantinides & Fountain, 2008). As the internet use rapidly grew, firms began to rethink their advertising strategies (Drèze & Hussherr, 2003) in the interest of forming and maintaining a competitive position in the market (Lee & Grewal, 2004). These facts reinforced digital advertising as an important component of most businesses' strategies (Rodgers & Thorson, 2017).

2.3. Digital Advertising

Advertising on the internet, also known as web or online advertising, was defined by Schlosser et al. (1999) as "any form of commercial content available on the internet that is designed by businesses to inform consumers about a product or service, which can be

delivered via any channel (e.g. video or audio) and provide information at any degree of depth" (p. 36). Ducoffe (1996) conceptualizes it as a cheaper channel, when compared to traditional media, that uses new technology to reach customers. Although the basis of this concept can be maintained, a lot has changed, starting with the terminology (Rodgers & Thorson, 2017), which is why this investigation adopts the term "digital advertising".

Digital advertising, according to McStay (2016), refers to "advertising that involves computational networks" and "serves to cluster a range of types of media and strategies, including web, mobile, tablet, social, locative, wearable and other networked devices capable of contributing to advertising experiences" (p. 2-3). Its history can be tracked back to the 90s. It all started with its first sign in 1994 with a ground-breaking ad banner visible on HotWired's website (an online magazine), which challenged internet users to click on it and, if so, they would be redirected to the sponsor's website, AT&T's (Hollis, 2005). From there this new medium kept rising (Cho & Cheon, 2004; Evans, 2009; Korgaonkar et al., 2001) until becoming the most important influence of the advertising industry, just like Ducoffe (1996) predicted.

From its first appearance, many players in the industry have realized the opportunities of digital advertising but also identified it as a vital form of income (Evans, 2009; Ha & McCann, 2008), a fact that justifies the major investments directed toward this form of advertising (Walsh, 2010). Statistics projected that digital advertising spending worldwide amounted US$204 billion in 2017 (Statista, 2017a), which returned a total of almost US$228 billion in revenues (Statista, 2017b). PricewaterhouseCoopers (PwC, 2017) has even confirmed that digital advertising's revenues surpassed television's for the first time in 2016, a tendency that is expected to continue, specially through mobile advertising's revenues. In Portugal, one of the smallest advertising markets in Europe (PricewaterhouseCoopers Portugal [PwC Portugal], 2013), the advertising gross investments have always been superior in television, with around €6 billion being invested in 2016 (Grupo Marktest, 2017). Although television is still the leading medium, companies have been increasingly investing on the digital domain, with approximately €690 million in 2017, which positioned this medium above other communication channels, namely print, outdoors, radio and cinema in terms of advertising investments in Portugal (Grupo Marktest, 2017). Concerning its revenues, digital advertising is expected to return a total of US$140 million by the end of 2017 in Portugal (Statista, 2017c). Even

though there is a visible dominance of investment in traditional media in Portugal, the following years' growth is expected to be based on digital (PwC Portugal, 2013).

Digital advertising has proven to have numerous features, which make it stand out from other media types, that, at the same time, represent unique benefits for both advertisers and consumers. Its most striking feature, interactivity, allows companies the possibility of a real time one-to-one customised communication with consumers (Berthon, Pitt, & Watson, 1996; Bezjian-Avery et al., 1998; Ha & McCann, 2008; Liu & Shrum, 2002; Rodgers & Thorson, 2017; Wolin & Korgaonkar, 2003). In the consumers' perspective, interactivity allows them to have control over the communication process, facilitates the manipulation over what they see on web pages, for example by scrolling down, and consequently a higher user engament (Liu & Shrum, 2002; Rodgers & Thorson, 2017; Schlosser et al., 1999). Digital advertising is also flexible since ads can be easily and regularly altered, considering consumers' needs and market conditions (Ducoffe, 1996). Comparing to traditional media, advertising on the internet is much more affordable (Berthon et al., 1996; Deshwal, 2016) and has a wider geographical scope, which eases the option of a worldwide coverage and also communication strategies regardless of distance or time (Berthon et al., 1996; Deshwal, 2016; Drèze & Hussherr, 2003; Wolin et al., 2002; Wolin & Korgaonkar, 2003). Besides this, there is the opportunity, in a more engaging way, to choose and target particular segments of consumers who are interested in certain products or services (Deshwal, 2016; Ham, 2017; Wolin et al., 2002; Wolin & Korgaonkar, 2003). This targeting is based on consumers' information online with the main goal of reaching them with personalized and relevant ads (Marciel et al., 2016). Another advantage is that digital advertising's results can be assessed with today's technology, meaning companies are able to measure and control them with analytic tools that, accordingly, provide insights regarding what to improve in their digital campaigns over time (Deshwal, 2016; Wolin et al., 2002; Wolin & Korgaonkar, 2003). The click-through-rate (CTR), which refers to the "ratio of the number of times an online advertisement is clicked to the number of advertising impressions" (Hollis, 2005, p. 256), has become the most dominant form of measurement (Fulgoni, 2016). Wolin and Korgaonkar (2003) also support that digital advertising allows constant message spreading while Deshwal (2016) and Rodgers and Thorson (2017) outline its speed, since ads can be deployed instantly once prepared.

In the scope of digital advertising, it becomes vital to distinguish the available media options for businesses, which can be categorized in owned, earned, paid (Corcoran, 2009) and shared media (Macnamara, Lwin, Adi, & Zerfass, 2016). Owned media includes channels that are controlled and generated by the company, such as an official website, corporate blogs or social media pages (Corcoran, 2009; Edelman, 2010; Hanna, Rohm, & Crittenden, 2011; Lovett & Staelin, 2016; Macnamara et al., 2016; Stephen & Galak, 2012). Earned media refers to communication activities that are not directly controlled by marketers (Hanna et al., 2011; Stephen & Galak, 2012), and therefore can be created by organizations through interviews or media releases (Macnamara et al., 2016), or also, by consumers through electronic word-of-mouth (Corcoran, 2009; Edelman, 2010; Lovett & Staelin, 2016), which is commonly referred to as shared media (Macnamara et al., 2016). Finally, paid media also known as advertising (Lovett & Staelin, 2016; Stephen & Galak, 2012), which is the main focus of this investigation, refers to channels which are paid for, by the sponsor (Hanna et al., 2011). It includes display ads, sponsorships and other types of digital advertising, and has been adopted by businesses for a long time in pursuance of building awareness and ultimately stimulate buying (Edelman, 2010).

2.3.1. Types of Digital Advertising

The internet itself involves many media (Rodgers & Thorson, 2017). It comprises various advertising options and each one has a variety of formats available (Choi & Rifon, 2002; Rodgers & Thorson, 2000, 2017). Rodgers and Thorson (2000) state that the "format of the ad simply refers to the manner in which it appears" (p. 49) and on the internet, consumers will find formats that cannot be found in traditional channels. The most widely used digital format is called banner, which is a standard rectangular-shaped element, usually located at the top or bottom of web pages that, when clicked, redirects the user to the advertisers' website (Lee & Lee, 2006; Rodgers & Thorson, 2000; Wolin et al., 2002). Yet, digital advertising has matured to embrace various innovative formats.

Search engine advertising is one form of digital advertising and involves the paid publicity that emerges by search engines' results, like Google, Yahoo or Bing, based on specific keywords, as consumers look for particular data (Goldfarb, 2014; Rodgers & Thorson, 2017; Winer, 2009). Advertisers typically pay for it whenever someone clicks on their advertisement, a practice named cost-per-click (CPC) (Goldfarb, 2014). Indeed,

this form has revealed to be the leading section of the digital advertising industry with a global market volume of US$102 billion in 2017 (Statista, 2017b).

There is also display advertising, the second most popular digital ad format (McStay, 2016). Concerning this type, Interactive Advertising Bureau (IAB, 2015) identified formats available to be displayed on the internet via desktop or mobile devices. Some examples are included in its universal ad package, which includes medium rectangles (Mrec), rectangles, wide skyscrapers, leaderboards and other ad units such as superleaderboard, half page, button 2 or microbars (see Appendix 2). There is also rich media, which concerns ads that engage with the user by incorporating features like animation, sound and/or interactivity in any format (IAB, 2015). This type allows users to click, drag, scroll and interact in many ways (Rodgers & Thorson, 2017). Still according to IAB (2015), these can include in-banner videos (videos inside display ads), expandable (ads that can be enlarged to sizes beyond its initial dimensions), pop-ups (any advertising experience where visiting a website in an initial web page indicates a secondary one), floating ads (an ad that is not user-initiated, being imposed over the desired page and disappears after a specific time period, according to Deshwal, 2016) and interstitials (an ad displayed as a user navigates from one web page to the next). Rodgers and Thorson (2000) also identify sponsorships, a simple indirect form of identifying brand's names, and hyperlinks, a small word or phrase that allows the user to link to another website by clicking on it, as other ad formats.

Digital advertising also includes social media advertising, which is, according to Rodgers and Thorson (2017), "any piece of online content designed with a persuasive intent and/or distributed via a social media platform that enables internet users to access, share, engage with, add to, and co-create" (p. 286).

There is also classified advertising, which is advertising that appears on websites that do not provide other media content besides ads, e.g. Craigslist's website (Goldfarb, 2014).

Advertising can also be conducted by email and it includes banners, links or sponsorships that appear in commercial e-mail communication content (Evans, 2009).

Recently, native advertising is emerging as a new trend on digital advertising and it involves paid ads that match the typical appearance of the native content of the platform on which it is visible (e.g. a suggested/sponsored video in a user's Facebook newsfeed or a pinned tweet on Twitter) (Rodgers & Thorson, 2017).

2.4. Digital Advertising Avoidance and Ad Blocking

When receiving information through any type of digital ads, internet users are likely to take actions in response to them and avoiding ads has become an ordinary reaction (Cho & Cheon, 2004; Rodgers & Thorson, 2017). "Advertisers are being blocked, ignored, flamed and unfollowed" and "consumers are banning advertisers from their email, mobile phones etc." (Rodgers & Thorson, 2017, p. 40).

Advertising avoidance, as a negative response, is described as "all actions by media users that differentially reduce their exposure to ad content" (Speck & Elliott, 1997, p. 61) and has been pointed out as one of the most defiant obstacles for advertisers (Baek & Morimoto, 2012; Prendergast et al., 2010). It can occur by cognitive, affective, behavioural and mechanical techniques (Cho & Cheon, 2004; Kelly et al., 2010; Speck & Elliott, 1997). The cognitive refers to "consumers' beliefs towards objects" *(*Baek & Morimoto, 2012, p. 62) and even though by cognitive avoidance consumers are always exposed to ads, they may choose to ignore them (Prendergast et al., 2010; Speck & Elliott, 1997). The affective element embodies *"*consumers' feelings or emotional reactions to an object" (Baek & Morimoto, 2012, p. 62)*,* which can be reflected in avoidance if ads are, for example, hated by consumers (Rodgers & Thorson, 2017). The behavioural component indicates a "consumer's actions to avoid an object" (Baek & Morimoto, 2012, p. 62), and this includes actions such as closing the ads, scrolling down or even stop using the internet (Rau et al., 2013; Rodgers & Thorson, 2017; Walsh, 2010). Avoiding digital advertising is, on the other hand, being conducted through other techniques, which are increasing fear among all advertising players (Rodgers & Thorson, 2017). With today's technology, avoiding advertising became much easier with the development of mechanical means (Rau et al., 2013; Kelly et al., 2010). In the online domains, avoidance towards advertising messages have been empowered by technologies known as ad blocking tools that are continually gaining consumers' attention (Johnson, 2013; Kelly et al., 2010; Kim & Seo, 2017). While advertisers pursue new means to communicate with consumers, their strategies are being obstructed by these ad blockers (Garrahan et al., 2015). This form of mechanical avoidance refers to a specific automatic software, which main feature is the removal of advertising content, such as banners, text ads and others, from web pages (Hedenblad & Knoflach, 2014; Malloy et al., 2016; PageFair, 2013). However, Malloy et al. (2016) defends that, even by using ad blocking software,

consumers are always exposed to a significant quantity of ads. The use of these tools is becoming a global phenomenon, and even though it improves consumers' experiences while surfing the web, it represents serious threats to the advertising industry (Malloy et al., 2016; Rodgers & Thorson, 2017; PageFair, 2013). Its threatening nature relates to the fact that many companies count on digital advertising revenues to support their online domains and available free content (Fulgoni, 2016; Marshall, 2016; McStay, 2016; Rodgers & Thorson, 2017).

Ad blocking started intensively on desktops, but its nowadays expanding towards mobile devices (Interactive Advertising Bureau [IAB], 2017). According to PageFair's (2017) global ad block report, desktop ad blocking use reached a total of 236 million active devices in 2017, a growth of more than 200 million since 2011. Meanwhile, there is a visible migration towards mobile devices with around 380 million devices in 2017 (PageFair, 2017). The same report states that ad block penetration is the highest on Indonesia (58%), Greece (39%), Ireland (39%), Poland (33%), while Portugal has 21% (PageFair, 2017). AdBlock Plus is currently the world's most popular ad blocker, active in around 100 million devices (https://adblockplus.org). Hence, this trending growth on the use of mechanical methods to block or limit exposure to advertising (Speck & Elliott, 1997) is obligating companies to be aware of it and identify its adopters (Vallade, 2009).

It is important to emphasize that, even though there are different types of ad avoidance, this investigation, following Baek and Morimoto (2012) and Speck and Elliott (1997), analyses the concept as a whole.

2.5. Antecedents of Ad Avoidance

Consumers' decisions to avoid advertising by any means can be explained by a number of key factors (Kim & Seo, 2017; Prendergast et al., 2010; Speck & Elliott, 1997).

2.5.1. Consumer Disruption and Distraction

The internet is explained as a more goal and task-oriented channel (Cho & Cheon, 2004; Kelly et al., 2010), since consumers, when searching or buying through the internet, tend to define specific goals and frequently adapt to its interactive atmosphere to achieve them (Rodgers & Thorson, 2000). Although, when using it, consumers face an incredible high number of ads (Ducoffe, 1996) and, therefore, there is a great probability that these could affect or downgrade consumers' actions and purposes on the digital domain, in

terms of web page searching, quickness of information access or even processing (Cho & Cheon, 2004; Kelly et al., 2010; Li, Edwards, & Lee, 2002; PageFair, 2017). Hence, responses towards digital advertising could turn out negative, as it can encourage consumers to avoid it entirely (Cho & Cheon, 2004; Edwards et al., 2002; Grusell, 2007; Li et al., 2002; Speck & Elliott, 1997). In this context, ads are strongly perceived as intrusive (Edwards et al., 2002; Speck & Elliott, 1997) and could cause disruption and distraction (Cho & Cheon, 2004). Some examples of intrusive ads are buttons, banners, skyscrapers, rectangles, interstitials and pop-ups, but also non-skippable video ads (Rodgers & Thorson, 2017; Winer, 2009).

Speck and Elliott (1997) connected disruption and distraction to communication problems that obstruct consumers contact with non-advertising content. The same authors specifically defended that ads can disrupt media processing, for instance, when consumers are interrupted from reading or viewing the desired content. While on the internet, an example of disruption can happen when consumers are viewing videos on YouTube and, during these, they are interrupted by a non-skippable video ad that prevents them from continuing to see what they requested for a specific time. Digital ads can also be distracting if they infringe consumers who are processing media content, e.g. when a consumer is reading a news article on The New York Times' web page and an ad is displayed between the editorial content. Both concepts were indicated to have an effect on ad avoidance depending on different media contexts (Speck & Elliott, 1997). When dealing with television, disruption impacts ad avoidance, and, in the case of distraction, the same happens with radio. On the other hand, disruption wasn't found to influence ad avoidance on magazines, newspapers and radio, while distraction didn't affect ad avoidance on magazines, newspapers and television (Speck & Elliott, 1997). Despite this, it is hypothesized that disruption and distraction have an impact on digital ad avoidance:

H1. The higher is consumer disruption, the higher is digital ad avoidance.

H2. The higher is consumer distraction, the higher is digital ad avoidance.

2.5.2. Perceived Ad Irritation

Advertising is known as a source of information value by offering consumers with knowledge about particular products, local sales or even motivation for their daily lives (Grusell, 2007; Li et al., 2002). However, many ads often result in negative effects in form of perceived irritation (Grusell, 2007). Baek and Morimoto (2012), based on Aaker

and Bruzzone (1985), define perceived ad irritation as "consumers' perceptions of the extent to which advertising is causing displeasure and momentary impatience" (p. 63). Consumers may feel irritated when exposed to high levels of advertising, when ads are unclear, offensive, exaggerated, too long, too large, manipulative or expose false information (Aaker & Bruzzone, 1985; Ducoffe, 1996; Edwards et al., 2002; Fennis & Bakker, 2001). This might negatively affect individuals' perceptions towards advertising and therefore ads' effectiveness (Ducoffe, 1996). Ad avoidance has been proved as a consequence of perceptions of irritation when dealing with ads (Baek & Morimoto, 2012; Li et al., 2002; Speck & Elliott, 1997) and, thus, the following hypothesis is formulated:

H3. The higher is perceived ad irritation, the higher is digital ad avoidance.

2.5.3. Perceived Personalization

Companies can, through the new technologies, have rapid access to consumers' information and its use to personalize online or mobile advertising is becoming more typical (Aguirre, Roggeveen, Grewal, & Wetzels, 2016; Johnson, 2013; Nyheim et al., 2015; Van Doorn & Hoekstra, 2013). Baek and Morimoto (2012) define personalized advertising as a "form of customized promotional messages that are delivered to each individual consumer through paid media based on personal information (such as consumers' names, past buying history, demographics, psychographics, locations, and lifestyle interests)" (p. 59). Its main purpose is to present consumers with relevant and advantageous advertising messages that can stimulate interest among them (Baek & Morimoto, 2012; Ham, 2017; Rodgers & Thorson, 2017). To maximize this reality, several types of personalization have been developed. An example is designated online behavioural advertising (OBA) which is a form of digital advertising targeting method that monitors and uses internet users' online information and browsing activities, such as basic demographics, which websites they visit, the time spent in them, purchase and search histories or even the number of clicks, to predict their interests and preferences (Ham, 2017; Rodgers & Thorson, 2017). Major technological developments such as the GPS (Global Positioning System), specially dealing mobile devices, have also allowed advertisers to spread real-time messages based on consumers' geographic location, a practice named location-based advertising (LBA) (Rodgers & Thorson, 2017; Shin & Lin, 2016). All this knowledge about consumers is what facilitates the customization of advertisements (Ham, 2017), which subsequently can enhance companies' credibility and

empower the development of strong relationships with consumers at a one-to-one level (Aguirre et al., 2016; Nyheim et al., 2015). However, consumers' perceptions towards personalized messages depends on its degree of customization and its potential benefits (Van Doorn & Hoekstra, 2013). If ads are highly personalized, not well targeted or spread without consumers' permission, it can induce a sense of invasiveness and they are most likely to feel that they are losing control over of their information, what could result in ad avoidance (Baek & Morimoto, 2012; Cho & Cheon, 2004; Li et al., 2002). Despite these facts, academic research has proven that ads that are exclusively directed to a consumer may increase its relevance and consequently result in a less possibility of ad avoidance (Baek & Morimoto, 2012; Li et al., 2002). For that reason, it is hypothesized that:

H4. The higher is perceived personalization, the lower is digital ad avoidance.

2.5.4. Privacy Concerns

Since businesses have manipulative intent by supporting personalized advertising (Aguirre et al., 2016), this practice becomes connected with the raise of privacy concerns as a result of the likelihood of exploitation of consumers' available information online (Baek & Morimoto, 2012; Ham, 2017). Even though consumers worry about their online privacy, many still share an ample amount of data in practice (Aguirre et al., 2016) and few comprehend its use by advertisers and marketers (Rapp, Hill, Gaines, & Wilson, 2009). Baek and Morimoto (2012) define privacy concerns as the "degree to which a consumer is worried about the potential invasion of the right to prevent the disclosure of personal information to others" (p. 63). In a context where consumers perceive ads as too personal a negative response should be expected, given the fact that they suspect their control over their privacy was violated by unknown parties (Baek & Morimoto, 2012; Rodgers & Thorson, 2017). For this reason, privacy concerns are regularly associated with four elements: information collection by businesses, unapproved access, unauthorized use by third parties and data exactness (Nyheim et al., 2015). Several scholars have concluded that privacy concerns may create backlash toward businesses and increase ad avoidance (Baek & Morimoto, 2012; Nyheim et al., 2015; PageFair, 2017; Rodgers & Thorson, 2017) and consequently the next hypothesis will be tested:

H5. The higher are privacy concerns, the higher is digital ad avoidance.

2.6. Segmentation

Regarding digital advertising avoidance, a gap in the literature is still to be explored, which is the identification of different types of ad avoiders (Seyedghorban et al., 2016).

Market segmentation has shown to be a powerful tool for companies, particularly for investigating how groups of consumers behave (Lin, Luarn, & Lo, 2004; Smith, 1956). This marketing component was first introduced by Smith (1956), who remarked that it relates to "viewing a heterogeneous market as a number of smaller homogeneous markets in response to differing product preferences among important market segments" (p. 6). Posteriorly, Kotler and Armstrong (2014) described market segmentation as "the process of dividing a market into distinct groups of buyers who have different needs, characteristics, or behaviours, and who might require separate products or marketing programs" (p. 73). In this way, the exploitation of a segmentation approach can help companies comprehend consumers' preferences, reach them more efficiently, adapt advertising messages to their specific needs, maximize consumer's satisfaction and secure a market position (Kotler & Armstrong, 2014; Smith, 1956).

In terms of digital advertising, market segmentation must be done wisely to avoid consumer backlash (Kotler & Armstrong, 2014). However, segmentation approaches have become much easier with internet's features, which allow companies to access and use consumers' available information online to spread relevant advertising messages tailored to their interests (Deshwal, 2016; Ham, 2017; Marciel et al., 2016; Wolin et al., 2002; Wolin & Korgaonkar, 2003).

The targeting of the desired market segments can only be effective and succeed if these follow certain conditions. In line with Kotler and Armstrong (2014), all segments must be: measurable, which means its dimension, buying power and characteristics can be assessed; accessible, in a way that they can be successfully reached and operationalized by all communication and distribution means; substantial, or in other words, profitable and large enough to serve; differentiable, in the sense that segments are theoretically distinct, equally exclusive and respond differently to marketing programs; and actionable, which means it must be possible to serve segments with companies' strategies.

The first technical phase of this marketing component lies on the selection of the segmentation basis (Oliveira-Brochado & Martins, 2008), with the main goal of defining the segment (Kotler & Armstrong, 2014). A segmentation base is an assembly of variables

used to link potential consumers in homogeneous segments (Oliveira-Brochado & Martins, 2008). The choice of these variables must be based on the investigations' purposes or market context (Oliveira-Brochado & Martins, 2008) and are usually selected from four broad areas, namely geographic, demographic, psychographic and behavioural characteristics (Kotler & Armstrong, 2014). According to Kotler and Armstrong (2014), geographical segmentation splits the market into geographical divisions, for example cities or countries; demographic variables are the most standard bases for segmenting and can comprise age, gender, income, occupation, education and more – in the context of ad avoidance, demographic variables, such as gender, age and education have been studied and found to be significantly related with ad avoidance (Grusell, 2007; Rojas-Méndez et al., 2009; Speck & Elliott, 1997); psychographic segmentation divides consumers into distinctive segments based on social class, lifestyle or personality characteristics; finally, marketers defend behavioural segmentation as the most effective base when segmenting, which involves segments based on their knowledge, attitudes, uses or responses concerning a product/service. Typically, it is not just chosen one of these to classify segments, but multiple basis (Kotler & Armstrong, 2014).

In the segmentation process, there is also the need to choose a consumers' classification method (Oliveira-Brochado & Martins, 2008). Cluster analysis has been broadly chosen as one of these methods for marketing segmentation (Malhotra & Birks, 2007; Punj & Stewart, 1983), since it can develop first-hand groups of individuals, products or occasions, which might assist as the root for advance investigation (Punj & Stewart, 1983). Malhotra and Birks (2007) define it as a "class of techniques used to classify objects or cases into relatively homogeneous groups called clusters" (p. 671).

Based on the statements above and given that ad avoidance is influenced by consumers' characteristics as well as their perceptions towards advertising (Rodgers & Thorson, 2017), a cluster analysis is conducted with variables disruption, distraction, perceived ad irritation, perceived personalization, perceived privacy concerns and ad avoidance degree as the chosen behavioural basis, joined by gender, age, academic qualifications and occupation as the demographic basis.

3. CONCEPTUAL FRAMEWORK AND RESEARCH HYPOTHESES

The conceptual model proposed to study the predictors of digital ad avoidance and its subsequent segmentation is based on three existing models. The first model, developed

by Speck and Elliott (1997), investigated ad avoidance predictors (demographic variables, media-related variables, attitudes toward advertising and communication problems, such as disruption and distraction) in four different media. Cho and Cheon (2004) evaluated the impact of perceived goal impediment, ad clutter and prior negative experiences on ad avoidance in the internet. Finally, Baek and Morimoto (2012) analysed the influence of factors including privacy concerns, ad irritation and perceived personalization in relation to ad scepticism and ad avoidance, in the context of personalized advertising. Thus, based on the above investigations, the following research framework is developed:
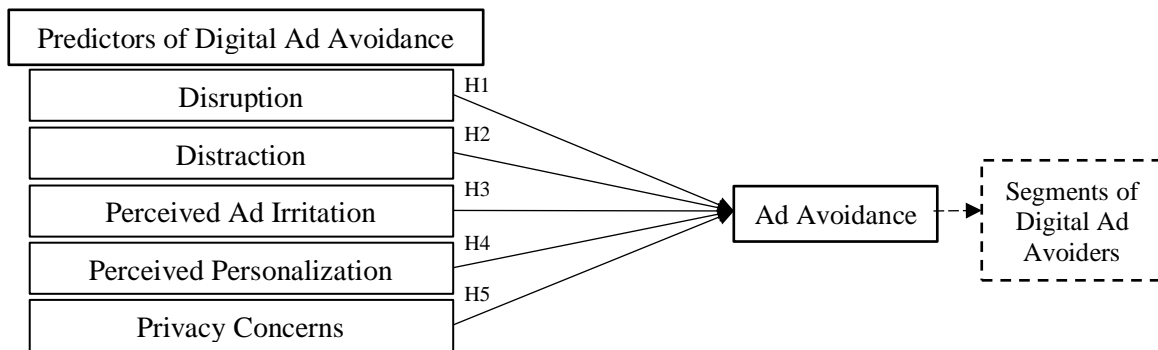

FIGURE 1 - Conceptual Framework

Based on the conceptual framework, supplemented with the previous literature review, the following research's hypotheses are stated:

TABLE I - Research Hypotheses

H1	The higher is consumer disruption, the higher is digital ad avoidance.
H2	The higher is consumer distraction, the higher is digital ad avoidance.
H3	The higher is perceived ad irritation, the higher is digital ad avoidance.
H4	The higher is perceived personalization, the lower is digital ad avoidance.
H5	The higher are privacy concerns, the higher is digital ad avoidance.

4. METHODOLOGY

Given the importance of defining a plan that guides the investigation, this chapter comprises topics related to the adopted methodology.

4.1. Type of Research

This research was conducted through a deductive approach, since it was based on existing academic theories (Saunders, Lewis, & Thornhill, 2012), earlier clarified.

With an explanatory and exploratory nature, it has as central aim to test the relation between variables and to understand a marketing phenomenon (Malhotra & Birks, 2007),

which, in this case, is to comprehend the predictors of digital ad avoidance and to explore the different segments of digital ad avoiders and use of ad blockers, correspondingly.

A quantitative method was employed through a survey strategy, more specifically, an online questionnaire, which eased a fast and economical collection of data, allowed a statistical analysis to answer this investigation's questions as well as a stronger control over the research process (Malhotra & Birks, 2007; Saunders et al., 2012).

Rise to time restrictions, this investigation was led at a specific and predefined time spectrum, which indicates a cross-sectional time horizon (Saunders et al., 2012).

4.2. Population and Sample

The sampling design was initiated by choosing the target population (Saunders et al., 2012), which includes all individuals, both genders, aged up 18 years old residents in Portugal, who are internet users. Thus, a sample, which refers to the subgroup of the population elected, was chosen (Malhotra & Birks, 2007). Even though this investigation's statistical results cannot be generalised to the entire population, a non-probability sampling was still adopted for its practicality, which means the choice regarding the selected individuals to participate in the research relied on the investigators' personal decision (Malhotra & Birks, 2007; Saunders et al., 2012). A convenience sampling was employed and in addition of being the cheapest and least time-consuming technique, it allowed the choice of opportune and easily accessible elements of the population (Malhotra & Birks, 2007; Saunders et al., 2012).

4.3. Data Collection

In an initial phase, to approach this research's questions and formulate an appropriate research design (Malhotra & Birks, 2007), secondary data was collected. It included organisations' databases, reports, web pages, books and academic scientific journals.

The choice of the data collection method was based on a specific information collection process, known as mono method (Saunders et al., 2012), which was translated into a quantitative research. A structured questionnaire (see Appendix 3) was constructed, mediated through the internet and self-administrated by the respondents, allowing the gathering of a considerable number of desired participants (Malhotra & Birks, 2007; Saunders et al., 2012). The questionnaire was supported through a research software, named Qualtrics, and its link was subsequently shared online across social networks,

more specifically, with friends, connections and groups on Facebook and LinkedIn. These channels were particularly efficient and a direct way to reach the desired population. The data collection was carried out from May 15th to May 24th.

4.4. Survey

A self-completion questionnaire (see Appendix 3) was developed with a total of 38 fixed-response alternative questions (except age), with the goal of reducing the variability of responses and consequent results (Malhotra & Birks, 2007). These were divided in nine sections: firstly, a brief introduction of the investigation's purpose was presented; the following seven sections were related to the respondents' perceptions and responses towards digital advertising (questions about consumers' disruption and distraction, ad irritation, perceived personalization, privacy concerns, ad avoidance and extra questions on the use of ad blockers); the last section dealt with demographic information.

To ensure the validity and understanding of the questionnaire (Saunders et al., 2012), a pre-test was piloted before the final data collection. During May 11th/12th, a sample of 29 convenient people, both genders, between 19 and 48 years old, were requested to reply and express their thoughts on the survey's clearness. Then, some advices were pointed out, essentially in terms of specifying questions with actual examples and misspellings. The scale's internal consistency was also tested and the results were suitable.

4.5. Measurement and Scales

The online questionnaire comprised nominal, ordinal, interval and ratio scales of measurement (Malhotra & Birks, 2007). For this research's purpose, the scales that measured the constructs using seven-point Likert scales were considered the most relevant. Respondents were required to indicate their degree of agreement or disagreement (Malhotra & Birks, 2007), raging from 1 (strongly disagree) to 7 (strongly agree), with a series of statements designed to measure their perceptions and responses towards digital advertising. All constructs were measured with items adopted and modified from scales previously employed in the extant literature. First, disruption and distraction were each measured using a three-item scale derived from Cho and Cheon (2004). Perceived ad irritation comprised a seven-item scale from Baek and Morimoto (2012). Finally, perceived personalization, privacy concerns and ad avoidance were

measured with a five-item scale each, adopted from Baek and Morimoto (2012). More details about all constructs' scales of measurement are available on Appendix 4.

4.6. Data Processing and Preliminary Analysis

The software program used to analyse the collected data was IBM SPSS Statistics, due to the quantitative nature of this research. A total of 540 respondents reached the end of the online survey, however, only 536 responses were considered complete and valid.

To prepare the collected data and facilitate its analysis (Malhotra & Birks, 2007), some preliminary procedures were conducted, mainly variables recoding and the creation of dimensions, which represented the constructs of this investigation.

In terms of recoding, the age variable was recoded into different age groups, specifically, "≤ 25 years old", "26-40 years old" and "≥ 41 years old". To facilitate the cluster analysis method, academic qualifications' variable was recoded in 4 new options: "High school or less", "Bachelor degree", "Postgraduate/Master/Doctorate degree" and "Others". The occupation variable was similarly recoded in "Student", "Student-worker", "Self-employed/Employee" and "Without professional occupation".

The dimensions, which corresponded to disruption, distraction, perceived ad irritation, perceived personalization, privacy concerns (independent variables) and ad avoidance (dependent variable), were created based on the arithmetic mean of a group of related indicators (see Appendix 5) and statistically tested through an exploratory Principal Component Analysis (PCA - Varimax Rotation). The main goal of this procedure is to confirm if the indicators measured the expected dimension and to transform a group of correlated variables between each other in a smaller group of independent variables, named dimensions (Marôco, 2014). Firstly, to evaluate the data's suitability for PCA, the Kaiser-Meyer-Olkin (KMO) statistic and the Bartlett's test of sphericity were performed. Malhotra and Birks (2007) defend that KMO values from .5 to 1.0 indicate PCA's adequacy and, in this investigation, all KMO's statistics ranged between .636 and .877, which can be categorized in reasonable (distraction and privacy concerns), average (disruption) and good (perceived ad irritation, perceived personalization and ad avoidance), considering PCA's quality recommendation options (Marôco, 2014). Additionally, Bartlett's test confirmed that all variables are significantly correlated ($p = .000$). These results confirmed that PCA is adequate and justified.

TABLE II - Summary of KMO and Barlett's Tests

		Disruption	Distraction	Perceived Ad Irritation	Perceived Personalization	Privacy Concerns	Ad Avoidance
KMO Test		.753	.636	.877	.857	.788	.821
Barlett's Test of Sphericity	Approx. Chi-Square	1121.482	549.143	2047.160	1631.189	1164.332	1344.755
	Sig.ᵃ	.000	.000	.000	.000	.000	.000

(A) Considered statistical significance level: .05

By default, one component was extracted from all six groups of variables and all of them explained more than 60% of the total variance (see Appendix 6).

All extracted dimensions' internal consistency was also assessed. The internal consistency was measured using Cronbach's alpha coefficient. This statistic formula varies from 0 to 1 and considers the ratio between the total variance of the indicators that compose the dimension and the variance of each indicator. As it can be verified in Appendix 6, all dimensions, except consumer distraction (.779, which is still positive), registered Cronbach's alphas above .8, meaning moderate to high consistency, which leads to the conclusion that all dimensions have high levels of internal consistency.

It is important to emphasize that in the following chapter, a significance level of 5% was chosen as the decision-making threshold for the results of several statistical tests.

5. DATA ANALYSIS

The purpose of this chapter is to summarize the collected data and the underlying statistical analysis, with the main goal of answering this research's questions.

5.1. Sample Characterization

Of this study's population initial sample, 536 internet users completed the questionnaire and most respondents are female (68.3%) with only 31.7% being men. Respondents' age ranged from 18 to 72 years old, but a larger number of younger individuals is visible, with 45.7% being 25 years old or younger, 27.1% between 26 and 40 years old and 27.2% with 41 years old or older. Regarding the respondents' geographical distribution, the majority lives in Lisbon's district (75.2%), followed by Leiria (10.3%) and Setúbal (3.2%). In terms of academic qualifications, 36.2% hold a bachelor degree, 39.3% haven't reached superior education and 20.9% already have a postgraduate or master degree. Most of the sample is currently employed (with 11.2% being self-employed and 48.7% being employed by others), while 21.1% is still studying,

11.8% is working and studying at the same time and 7.3% are not professionally active. Finally, in terms of the respondents' net monthly income, even though 12.5% did not respond to this question, 9.1% affirms to receive up to €500 monthly, 34% between €501 and €1000, 19.2% do not have an income, which could be explained by the fact that many respondents are still students, and 25.1% is paid more than €1001 per month. Data concerning this sample's demographic characterization can be found in Appendix 6.

5.2. Descriptive Analysis

5.2.1. Digital Ad Avoidance Levels

Regarding the degree of agreement towards digital ad avoidance's indicators, on average most surveyed internet users somewhat or strongly agree with all examples of ad avoidance, with an overall mean score of 5.03. Intentionally ignoring ads on the internet stands out from the other indicators of ad avoidance ($M = 5.68$; $SD = 1.412$), followed by asking marketers to take internet users off their e-mail lists ($M = 5.31$; $SD = 1.808$) and discarding advertising without opening it ($M = 5.21$; $SD = 1.706$). Detailed descriptive analysis concerning digital ad avoidance can be consulted on Figure 2 and Appendix 5.
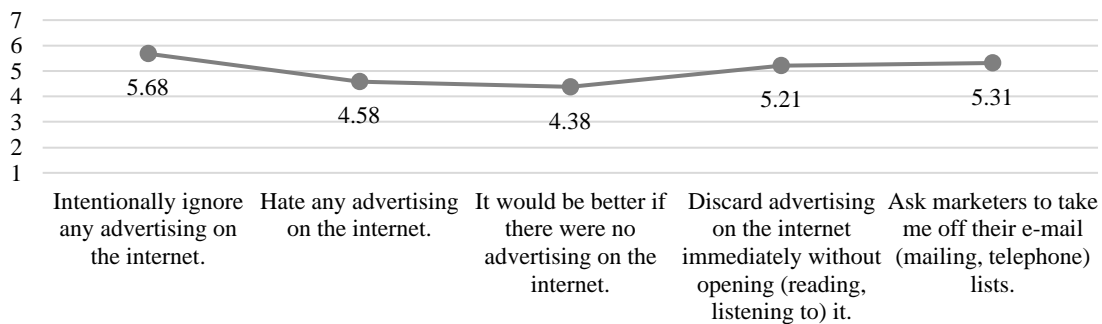

FIGURE 2 - Digital Ad Avoidance Indicators Means

5.2.2. Perceptions Towards Digital Advertising

Analysing internet users' perceptions towards digital advertising, privacy concerns was the dimension which registered higher levels of agreement ($M = 6.02$; $SD = 1.040$), meaning the surveyed care about their privacy and misuse of personal information by companies. Disruption was the second dimension achieving a higher level of agreement ($M = 5.30$; $SD = 1.851$). It was also verified that digital ads distract internet users while surfing the web ($M = 5.03$; $SD = 1.573$) and at the same time are perceived as irritating ($M = 4.63$; $SD = 1.291$). On the other hand, it is important to emphasize that perceived

personalization's dimension didn't get a positive level of agreement and accordingly digital ads are not being well targeted ($M = 3.79$; $SD = 1.467$) (see Appendix 5).

5.3. Predictors of Digital Ad Avoidance (Multiple Regression)

Conducive to answer the first research question and by this, understand which are the predictors and their strength on digital ad avoidance, an explanatory multiple linear regression analysis was piloted. This method allowed testing and validating all the hypotheses previously indicated, where the dependent variable was ad avoidance and the independent variables were disruption, distraction, perceived ad irritation, perceived personalization and privacy concerns. Previous to the multiple linear regression, all the needed assumptions were analysed and can be confirmed on Appendices 7, 8, 9 and 10.

According to the results, this investigation's framework is statistically significant to explain the variables' relation ($F(5) = 89.264$; $p = .000$) and indicates that 45.2% of digital ad avoidance's variance is explained by all the mentioned independent variables (Adjusted $R^2 = .452$), except distraction (see Appendix 11).

TABLE III - Predictors of Digital Ad Avoidance (Multiple Regression)

Independent Variables	Standardized Coefficients Beta (β)	
Disruption	.113**	
Distraction	.013	
Perceived Ad Irritation	.485*	
Perceived Personalization	-.175*	
Perceived Privacy Concerns	.188*	
Adjusted *R* square		.452**
F (5, 530)		89.264

Dependent Variable: Ad Avoidance
Significance: *($p < .05$); **($p < .001$)

The multiple linear regression allowed identifying disruption (β = .113; $t = 3.066$; $p = .002$), perceived ad irritation (β = .485; $t = 13.269$; $p = .000$), perceived personalization (β = -.175; $t = -5.118$; $p = .000$) and privacy concerns (β = .188; $t = 5.555$; $p = .000$) as statistically significant predictors of digital ad avoidance. Interestingly, distraction (β = .013; $t = 0.333$; $p = .739$) was detected to not have a statistically significant influence on digital ad avoidance. These findings validate all the hypotheses, except H2, which supported that if distracted, internet users tend to avoid digital ads (see Table IV).

From all independent variables, only four are relevant to explain digital ad avoidance, considering this research's sample. It is important to emphasize that perceived ad irritation, when compared to the other independent variables, is the most impactful

predictor of digital ad avoidance, while disruption is the one which least predicts it. Perceived personalization was confirmed to negatively influence digital ad avoidance, which means that in a context where an internet user faces personalized advertisements, there is a less probability of ad avoidance.

TABLE IV - Hypotheses Validation

H1	The higher is consumer disruption, the higher is digital ad avoidance.	Supported
H2	The higher is consumer distraction, the higher is digital ad avoidance.	Not Supported
H3	The higher is perceived ad irritation, the higher is digital ad avoidance.	Supported
H4	The higher is perceived personalization, the lower is digital ad avoidance.	Supported
H5	The higher are privacy concerns, the higher is digital ad avoidance.	Supported

5.4. Cluster Analysis: Segmentation of Digital Ad Avoiders

After the variables' reduction in six dimensions through a PCA, an exploratory cluster analysis was performed. It has the purpose of distinguishing and segmenting subjects from this investigation's sample with similar characteristics in homogeneous groups (Marôco, 2014) and therefore, answer the second research's question.

The current research employed both hierarchical and *k*-means methods. Firstly, in the direction of obtaining the best solution of an acceptable number of homogeneous segments, the cluster analysis started by using the hierarchical method, specifically Ward's method since its one of the most common. The recommended squared Euclidean distance (Punj & Stewart, 1983), which determines the distance between clusters, was chosen as the dissimilarity measure and was graphically projected with the goal of examining the distance between the agglomeration coefficients. Thus, 3 clusters were identified as the best solution (see Appendix 12). After this procedure and with a fixed solution of 3 clusters, the final classification was developed through a non-hierarchical cluster agglomeration procedure, named *k*-means, which allowed a further examination of the three clusters. Each cluster is described and compared in terms of the proportion of the sample, their perceptions towards digital advertising (disruption, distraction, perceived ad irritation, perceived personalization and privacy concerns), ad avoidance levels and demographic characteristics (age, gender, occupation and academic qualifications) (see Table V and Figure 4). Overall, considering digital advertising as being disruptive is the aspect on which the identified clusters show bigger discrepancies

($F = 983.260$), while being concerned with their privacy is the aspect to which clusters show the most similarities ($F = 30.842$) (see Appendix 13).

TABLE V - Clusters' Profile

		Total Sample	Cluster 1	Cluster 2	Cluster 3
		$N = 536$	$n = 86$	$n = 165$	$n = 285$
Perceptions Towards Digital Advertising (*Means*)					
	Consumer Disruption	5.30	**1.78**	5.16	**6.45**
	Consumer Distraction	5.02	**3.60**	4.38	**5.84**
	Perceived Ad Irritation	4.63	4.61	**3.16**	**5.20**
	Perceived Personalization	3.79	**3.31**	**4.69**	3.42
	Privacy Concerns	6.02	5.92	5.56	**6.31**
Ad Avoidance Levels (*Means*)		5.03	**4.99**	**3.80**	**5.76**
Demographic Characteristics (*Percentages*)					
Gender	Feminine	68.3%	**75.6%**	68.2%	**71.9%**
	Masculine	31.7%	24.4%	**41.8%**	28.1%
Age	≤ 25 years old	45.7%	20.9%	**46%**	**53%**
	26-40 years old	27.1%	22.1%	**37%**	22.8%
	≥ 41 years old	27.2%	**57%**	17%	24.2%
Occupation	Student	21.1%	11.6%	21.2%	**23.9%**
	Student-worker	11.8%	3.5%	**13.3%**	**13.3%**
	Self-employed/Employee	59.9%	**68.6%**	60.7%	56.8%
	Without professional occupation	7.3%	**16.3%**	4.8%	6%
Academic Qualifications	High school or less	39.2%	**66.3%**	27.9%	37.5%
	Bachelor degree	36.2%	22%	**35.2%**	**41.1%**
	Postgraduate/Master/Doctorate	20.9%	10.5%	**32.1%**	17.5%
	Others	3.7%	1.2%	4.8%	3.9%

Notes – Codification from 1 (Strongly Disagree) to 7 (Strongly Agree)

     Cluster 1: The Unaware Avoiders; Cluster 2: The Well Targeted; Cluster 3: The Standard Avoiders.

"The Unaware Avoiders" (Cluster 1): The first segment represents 16% of the total sample, being the smallest of them all ($n = 86$). Avoiding digital advertising is a common reaction among the members of this cluster. Regarding their perceptions towards digital advertising, its members are the only ones who do not feel disrupted nor too distracted by digital ads when processing digital content. Still, they perceive digital ads as being considerably irritating and not correctly targeted to their situation as customers. In general, they show the lowest levels of disruption, distraction and perceived personalization and, as well as the other clusters, it shows substantial concerns on privacy issues. For not picturing the disruptive and distracting character attributed to digital advertising by the whole sample, this cluster is named as "the unaware avoiders".

Demographically, it is dominated by women (75.6%), with 41 years or older (57%), that are currently employed or self-employed (68.6%). Compared to the other clusters, it is characterized for having the lowest numbers regarding men (24.4%), young people

(only 20.9% being younger than 25), students (11.6%), but also student-workers (3.5%). On the other hand, it holds the most individuals without a professional occupation (16.3%). This cluster is also demographically distinct for being the least educated, with only 32.5% holding superior academic qualifications and for having the biggest proportion of internet users that completed high school or lower academic qualifications (66.3%).

"The Well Targeted" (Cluster 2): This cluster occupies the second place considering its proportion of the sample (30.8%). Surprisingly, given the high levels of digital ad avoidance among the total sample, the members of this cluster stand out for being the only ones with a negative degree regarding this topic. Even though it shows considerable levels of disruption, distraction and privacy concerns, this cluster, contrary to the rest, is the only which doesn't perceive digital ads as irritating, but in the other hand, considers them to be significantly personalized, which is why it is called "the well targeted".

Although it is mostly constituted by women (68.2%), it presents the highest percentage of men (41.8%). It is characterized for being an equally distributed cluster regarding age groups, with both young and adult individuals (46% are 25 or younger, while 37% are between 26 and 40 years old). Even though it is predominantly composed by self-employed or employed individuals (60.7%), it shares, with the third cluster, the highest percentage of student-workers (13.3%). In terms of education, around 67% have superior academic qualifications, in contrast to 27.9% with a high school diploma or less.

"The Standard Avoiders" (Cluster 3): This segment is the biggest for representing 53.2% of the sample ($n = 285$). When it comes to avoiding ads, this segment is the one that most avoids digital ads. Alongside this feature, it is also distinct for being the most disrupted, distracted, irritated and concerned with privacy issues when dealing with digital advertising. In terms of personalized ads, this segment has the second lowest mean rating on perceived personalization. For following the previously analysed results concerning the predictors of digital ad avoidance, this segment is branded "the standard avoiders". In terms of demographics, its members are mainly women (71.9%) with 25 years old or younger (53%). Even though there is a dominance of employed/self-employed people, it has the biggest proportions of students compared to other clusters (23.9%) and, additionally, concerning bachelor graduates (41.1%).

5.5. *Use of Ad Blocking Tools*

Concerning the knowledge and usage of ad blocking, 36.4% of the surveyed internet users affirm to currently use these tools, 13.8% have used an ad blocker in the past but no longer do so, 25.2% have heard about it but never used it and the rest of the sample doesn't have any knowledge concerning ad blockers.

In terms of internet users who have heard about ad blockers but never used them, 73.3% are women, 37% are younger than or 25 years old and 34.1% are 41 or older. In terms of academic qualifications, 33.3% graduated from high school or less, 39.3% concluded a bachelor degree and 23.7% have higher academic levels than the bachelor level. Around 14.8% are studying, but many are self-employed or an employee (68.1%).

Respondents who have zero knowledge concerning the existence of ad blocking tools are mainly women (80.3%), who have completed high school or lower academic levels to (58.3%), and around 41.7% are 41 years old or older. It is also important to understand that most of this group's respondents are self-employed or employees (68.2%).

Internet users who know about and have used ad blocking tools are also mainly self-employed/employed (62.2%) women (62.2%) with 25 years old or younger (40.5%). In terms of education, there isn't a big discrepancy between the various academic levels, with 41.9% having a high school diploma or less, 35.1% with a bachelor degree and 21.6% with a postgraduate, master or doctorate degree.

The individuals who still use ad blockers on their devices are 59% women and 41% men, mainly with 25 years old or less (65.6%). These ages justify the number of students (31.3%) and student-workers (15.9%) who use ad blockers. A big part of ad blockers users has finished a bachelor degree (41.5%) and superior academic levels (27.2%).

This current and past adoption of ad blockers among the surveyed internet users is mostly reflected on laptops (53.8%) and desktops (26.1%) and just 6.5% on tablets. Surprisingly, only 13.6% use these programs on mobile devices. In terms of how they knew about these tools, 59.9% learned about it through friends, colleagues or family and 13.8% through the internet, news or other communication channels. When receiving requests by websites to disable ad blocking programs, most respondents, who have used or use ad blocking software, affirm that they deactivate it only for that website (52%), 29.7% leave the website, 5.2% never received that request and less than 1% eliminates

the ad blocker. However, 12.4% took no action in such context. More detailed information regarding this topic is available on Appendices 14, 15, 16 and 17.

6. CONCLUSIONS

This chapter discusses the results of this investigation, considering its research's questions, explored academic background and collected data. Moreover, its contributions and limitations are examined alongside with recommendations for future research.

6.1. Discussion

Given the identified gaps on digital advertising avoidance literature, this investigation attempted to explain the effect of five predictors on digital ad avoidance, to segment existing groups of digital ad avoiders and to understand more about the use of ad blocking, with the goal of gaining a richer understanding on this topic and providing advertising practitioners with insights that may help them decrease ad avoidance levels,

The findings of this study indicate that internet users' perceptions towards digital advertising are slightly negative. In addition to being strongly concerned with their privacy on the internet, digital ads are perceived as disruptive, distracting, irritating and not effectively tailored to customers' needs. Consequently, ad avoidance proved to be a behavioural trend in the digital advertising panorama, given that purposely ignoring ads, instantly discarding them without reading or listening and asking marketers to remove consumers' e-mail from their lists are straightforward realities.

The explanation of this reality, in pursuance of answering the first research question, was led through the formulation of five hypotheses, being each one correspondent to a chosen digital ad avoidance predictor. These hypotheses (see Table I), tested through a multiple regression method, had the specific purpose of assessing the positive or negative impact of each predictor on digital ad avoidance and identify the strongest factors.

Digital ad avoidance levels were confirmed to increase if ads disrupt internet users' activity on the internet. This correlates with the sample's perceptions, which indicated that digital ads interrupt the viewing of web pages, the reception of desired content and intrude the search for information. With this, the first hypothesis is confirmed, meaning that the higher is consumer disruption, the higher is digital ad avoidance. Despite not having been studied in the digital context until now, results of past investigations support the relation between disruption and ad avoidance, such as Speck and Elliott (1997).

However, contrary to expectations, digital ad avoidance wasn't found to increase if internet users feel distracted by digital ads, which rejects the second hypothesis. Even though digital ads are pictured as interrupting the flow of editorial content (e.g. a news article on Forbes' website) or infringing internet users' control, consumer distraction was not evidenced to have a positive influence on ad avoidance, since the variables' relation was not statistically significant. This conclusion, although applied in the digital context, is in accordance with Speck and Elliot's (1997) results. Perceived ad irritation, meaning discontentment and momentary impatience (Baek & Morimoto, 2012), was found to be the most remarkable when it comes to positively explaining internet users' digital advertising avoidance, since ads were described as irritating, unappealing and vulgar. Therefore, the third hypothesis is confirmed. Previous analyses have also recognised this relation between perceived ad irritation and ad avoidance (Baek & Morimoto, 2012; Li et al., 2002; Speck & Elliott, 1997). On the other hand, with a negative effect, the findings of this investigation confirmed that when internet users perceive ads as being personalized to their situation, there is a less probability of avoidance, which confirms the fourth hypothesis and goes in accord with other studies (Baek & Morimoto, 2012; Li et al., 2002) However, digital ads weren't totally perceived as personalized, given that they aren't seen as being tailored to internet users' situation, are not customized to their needs and do not make them feel unique. Concerns regarding privacy and potential disclosures of personal information among companies is also a positive predictor of digital ad avoidance. It was verified that internet users are concerned with the misuse of their personal information, they feel uncomfortable if their information is shared without permission and fear that their information may not be safe. For these reasons and following previous researches' results (Baek & Morimoto, 2012; Nyheim et al., 2015), the higher are privacy concerns, the higher is digital ad avoidance, which confirms the final hypothesis. Briefly, responding to the first research question, only consumer disruption, perceived ad irritation and privacy concerns were verified to be positive precursors for digital ad avoidance, whilst perceived personalization was recognised as a negative antecedent. On the other hand, distraction was the only factor that doesn't influence ad avoidance on the internet. When comparing the impact of each predictor, perceived ad irritation is the strongest, followed by privacy concerns, perceived personalization and disruption.

Exploiting a nationwide non-representative sample of the Portuguese internet users' population, this investigation, with the goal of answering the second research question, acknowledged three distinctive clusters and profiled them based on their perceptions towards digital advertising, ad avoidance levels and demographic information. It is important to emphasize that there isn't academic research, to the best of the investigator's knowledge, that has segmented the different types of ad avoiders, which doesn't allow any comparison with this study's findings.

The first cluster, "the unaware avoiders", is the smallest. Demographically, it's mainly represented by older working women, who have the lowest academic qualifications, since most of its members only completed secondary education or less. For that, it is portrayed as the oldest and the least academically educated. The "unaware avoiders" stand out for being the only ones who have negative scores on disruption and distraction, meaning they are the least likely to feel disrupted or distracted when processing digital media content. However, this segment still greatly avoids digital ads, which could be explained, following the confirmed relation between variables, by its high privacy concerns, low perceived personalization and for slightly seeing ads as irritating.

The second cluster, "the well targeted", despite being mainly composed by women, contains the leading share of men, compared to the rest, with most of its members being employed and having a superior diploma. Interestingly, this cluster distinguishes itself for opposing the trending digital ad avoidance reality. "The well targeted" is the only cluster with negative levels of ad avoidance in the digital network, even though it's portrayed for perceiving ads as disruptive, somewhat distracting and for having concerns with the disclosure of their information online. However, this negative degree of avoidance is consistent with the previously established relation between perceived ad irritation and personalization with ad avoidance. Unlike the others, this cluster doesn't see digital ads as being irritating, but does describe them as being adequately personalized, which justifies the low degree of digital ad avoidance.

The final cluster, labelled "the standard avoiders", is the biggest, dominated by younger women with 25 years old or younger. Even though it is predominately composed by employees or self-employees, it has the highest proportion of students and individuals with a bachelor degree. For that reason, it is described as the youngest and most educated. This segment has the most advertising avoiders, which is justified by the fact that it has

the top levels of disruption, distraction, irritation and privacy concerns when dealing digital ads. In addition, the results showed that this cluster does not perceive digital ads as being personalized, which substantiates this investigation's earlier findings.

Overall, all segments presented considerable levels of digital ad avoidance, except "the well targeted", a fact that is justified by their differences considering their perceptions of ad irritation and personalization. Regarding feeling interrupted or distracted, only "the unaware avoiders" scored low levels on these topics. Despite these differences, all three segments shared high levels of privacy concerns.

Answering the third research question, it was concluded that half of the surveyed internet users currently use or have used ad blocking tools. This group of users is characterized for being mainly female, with 25 years old or younger and with higher education diplomas. Its usage is more evident on laptops, but less intensive on smartphones, a reality that doesn't follow the global rise of ad blockers towards mobile. When requested to disable these tools from blocking ads, most of the surveyed deactivate it only for the website that made that request. Those who have heard about ad blockers, but never used them, are mainly working women and proportionally divided when dealing with the analysed age groups and academic qualifications. In terms of individuals who are not aware of the presence of this software, they are mostly older working women with less academic qualifications.

6.2. Theoretical Contributions

From an academic point of view, this research provided meaningful insights that diminish existing gaps and contribute to the discussion regarding digital advertising's literature dealing with ad avoidance. Besides developing a new theoretical framework that considers the possible drivers of digital ad avoidance, the empirical data strengthened previous investigated variables relations (even though assessed in other media). Consistent with previous findings in the literature, this investigation acknowledged the significant positive impact of consumer disruption (Speck & Elliott, 1997), perceived ad irritation (Baek & Morimoto, 2012; Li et al., 2002; Speck & Elliott, 1997) and privacy concerns (Baek & Morimoto, 2012; Nyheim et al., 2015) and the negative influence of perceived personalization (Baek & Morimoto, 2012; Li et al., 2002) on ad avoidance, in this case concerning the digital domain. On the other hand, this investigation establishes that distracting digital ads do not necessarily increase ad avoidance. Additionally, the

suitability and reliability of the adopted scales of measurement and the appropriateness of these variables connections were also confirmed. This study also analysed digital ad avoidance, which isn't still in a mature phase of its literature, in Portugal, where the concept hasn't been investigated. In an innovative way, this research is also the first, to the investigator's knowledge, to identify and compare different segments of digital ad avoiders. This segmentation approach can be a starting point for further analyses. It is also one of the few that explores ad blocking as an ad avoidance technique, that by itself is a threatening trend for the advertising industry. In general, this investigation contributes with interesting knowledge to the limited literature on digital advertising.

6.3. Managerial Implications

Since advertisers should have wide knowledge on consumers' interests concerning digital ads (Rodgers & Thorson, 2017; Wolin et al., 2002), this investigation offers meaningful insights that may be of interest to practitioners, such as companies or advertising agencies who are or wish to be operating in Portugal. Digital advertising is increasingly obtaining vast investments by companies all over the world and this tendency is also projected in Portugal. Although, after acknowledging strong levels of ad avoidance on this research, practitioners must be aware of this unprofitable reality and consider working towards designing advertising content that diminishes the prospect of ad avoidance among internet users and consider their perceptions and behaviours.

The creators of advertising content must moderate the irritating, disruptive and distracting (even though distraction was not found to be a predictor of ad avoidance) image of digital advertising and build more appealing and less intrusive ads to lessen ad avoidance. One way to approach the irritation issue is to decrease the exposure of advertising to consumers or segments expected to feel irritated by them. It is also suggested that advertisers do not try to persuade internet users with too many ads or even with unclear, offensive and false information. As suggested by Rodgers and Thorson (2017) and Winer (2009), buttons, banners, skyscrapers, rectangles, interstitials, pop-ups and non-skippable video ads should also be avoided for being intrusive formats. As a solution, and since it was proposed that digital ads targeting is poorly conducted, resolving this advertising image can be supported by dedicating more time learning about consumers' information, specially their habits and preferences. By this, companies can target them with advertising content tailored to their situations in order to make each

customer feel unique. Companies should then take advantage of today's technological tools and invest on practices like online behavioural or location-based advertising, which will allow businesses to spread more relevant advertising messages and increase their credibility. This necessity is approved by Taylor (2009), who states, as one principle of digital advertising, that customers are more likely to be interested in positively reacting to digital ads that are related to them. However, since consumer targeting requires companies to have access to their information, this stage must be conducted in a sensible and accurate way without infringing internet users' privacy boundaries. This demands companies to comprehend this limit, due to its positive impact on ad avoidance. Given that, advertising players should follow another principle of digital advertising and be sensitive to consumers worries on privacy issues (Taylor, 2009).

It should be also noted that the segmentation approach allows practitioners to consider each segment's unique characteristics, compare them and adapt advertising strategies to each one. Even tough ad avoidance is visible in only two clusters, there are clear suggestions that can be pointed out to each one. For both segments of avoiders, specifically "the unaware avoiders" and "the standard avoiders", more efforts should be done concerning the targeting of advertising messages. This could be expected to automatically reduce its members' perceptions of irritation, since it is the main predictor of digital ad avoidance. On the other hand, when dealing with "the well targeted" segment, companies should keep their personalization efforts, but invest more on trying to decrease the quantity of ads with disrupting and distracting features. A regular problem among all clusters is the high levels of privacy concerns and, therefore, companies should, as already mentioned, be sensitive and try not to cross consumers' privacy boundaries.

When dealing with ad blocking usage, it is interesting to know that most current or past users revealed to disable them when requested by websites to do so, a behaviour that could be an opportunity for companies to avoid their ads from being blocked. Fulgoni (2016) has even suggested some solutions to overcome ad blocking software, such as: creation of ads that consumers truly want to view; make website's content not available unless the internet user accepts advertising; and ultimately take legal action against the creators of ad blockers. Forbes, for example, blocked users who have ad blockers on their devices from accessing its website and that made around 40% of these users to turn them off. If consumers' ad blocking programmes were still active, they would be asked to

create a personal account to have admittance to the website, which would automatically make Forbes have access to consumers' valuable personal information (Marshall, 2016).

In closing: *People don't hate ads, they hate bad experience… We need ads that create better experiences, ads that are relevant and add value. We need to stop interrupting and start engaging.* (Albert Brea, LinkedIn)

6.4. Limitations and Future Research

This research has acknowledged several limitations, which limit the applicability of its results. The most important limitation lies with the restricted use of a non-probabilistic sampling method, mainly the convenience method, indicating selection bias and less representativeness, which constrains the generalization of these findings to the entire population of Portuguese internet users. Secondly, the adoption of only one method of data collection, since the incorporation of other methods, such as interviews or focus groups, could bring more reliable results. Thirdly, this research sample was strongly composed by younger women, which limited a fair comparison between both genders and age groups concerning ad avoidance, its predictors and the subsequent cluster analysis. Finally, investigating the internet as a unique medium becomes a limitation, since this channel comprises itself different media and can be used through many devices, from desktops, laptops to mobile devices, where there are different formats of ads and consequently perceptions towards ads and ad avoidance levels may differ.

Further experimental investigations are needed to understand ad avoidance in different platforms where the internet can be accessed, e.g. laptops or smartphones, since ads differ between these devices. Future studies should also target the countless types of digital advertising, e.g. e-mail marketing or search engine marketing, and formats, from banners to interstitials, individually, because its features can have specific effects on ad avoidance. These findings would allow advertising practitioners to design adequate advertising that lessens ad avoidance on each device and digital media. Another important issue for future studies would be analysing the contradiction between the fact that consumers are concerned with their privacy, which drives them to avoid ads, but at the same time are less likely to avoid them if they are personalized. Being said that, an investigation to verify to what extent consumers perceive personalized advertising as being invading their privacy is needed.

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Appendices

Appendix 1. Examples of Web 2.0 Applications

Web Applications	Description	Examples
Blogs (short for Web logs)	Web pages that enable companies/individuals to publish information by means of interactive, virtual diaries.	Gizmodo; Boing Boing; Huffington Post;
Social Networks	Applications allowing users to build personal websites accessible to other users for exchange of personal content and communication.	My Space; Facebook;
Content Communities	Websites organizing and sharing particular types of content, e.g. videos or photos.	YouTube; Flickr; Google Videos;
Wikis	Portals targeted at knowledge creation and knowledge sharing, which can be easily edited by anyone who is allowed access.	Wikipedia
Forums	Sites for exchanging ideas and information usually around special interests.	Epinions; Personal Democracy;
Content Aggregators	Applications allowing users to fully customize the web content they wish to access.	Yahoo; Google;

Source: Constantinides and Fountain (2008) and Mazurek (2009)

Appendix 2. Examples of Display Ads Formats (IAB Guidelines)
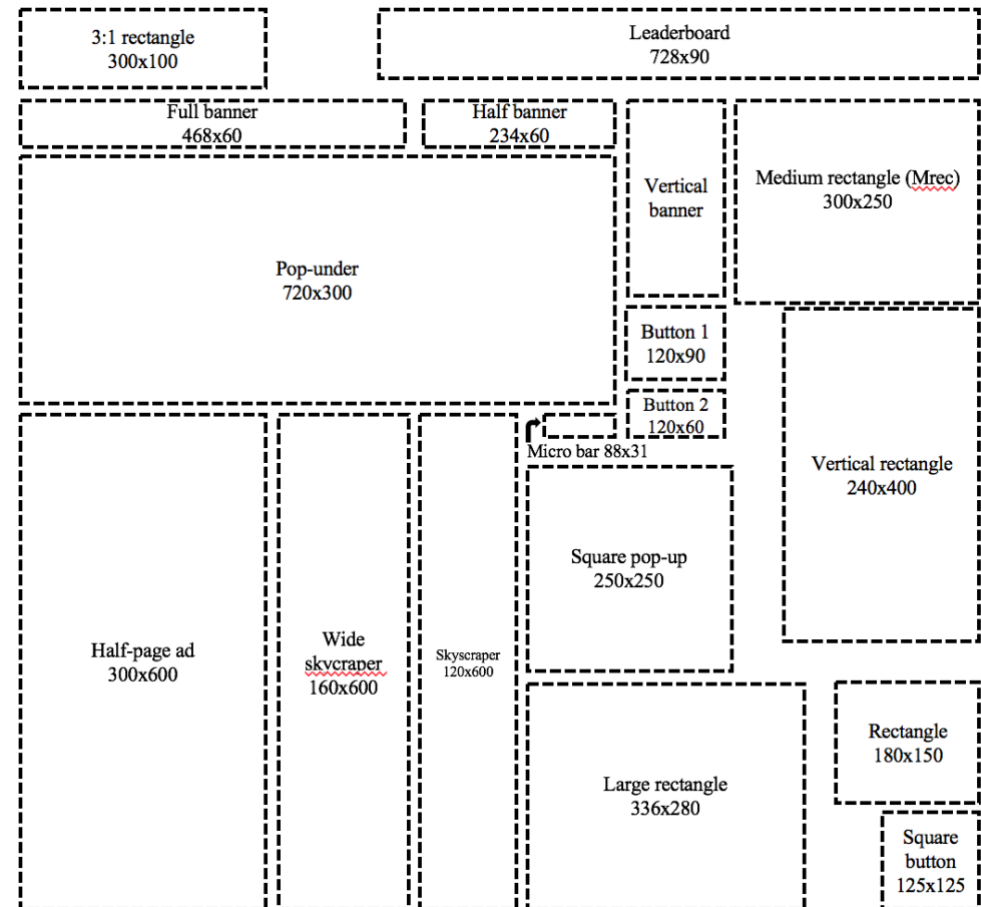
Appendix 2. Online Survey

Section 1. Introduction

Sou estudante do Mestrado em Marketing n ISEG (Lisbon School of Economics and Management) e, no âmbito da minha dissertação, estou a realizar um estudo com o objetivo de analisar quais os fatores que influenciam a decisão dos portugueses em evitar a publicidade na internet.

Este questionário tem uma duração média de 7 minutos.

Os dados recolhidos neste estudo são anónimos, confidenciais e serão tratados de forma agregada. Não existem respostas certas ou erradas, pelo que peço pela sua honestidade.

O seu contributo é muito importante para o sucesso do meu estudo. Obrigado!

Section 2. Perceptions about Digital Advertising (Disruption)

Este conjunto de questões diz respeito à perceção sobre interrupções provocadas pelas mensagens de publicidade, enquanto se utiliza a internet.

Indique em que medida cada uma das seguintes frases melhor traduz a sua opinião, numa escala compreendida entre "Discordo totalmente" e "Concordo totalmente". (Responda tendo em conta a sua opinião):

Quando estou a utilizar a internet...

	Discordo totalmente	Discordo em grande parte	Discordo em parte	Nem concordo nem discordo	Concordo em parte	Concordo em grande parte	Concordo totalmente
Os anúncios de publicidade interrompem a minha visualização dos sites (exemplo: está a ler uma notícia no site do Jornal de Notícias e abre-se uma nova página com publicidade que interrompe a sua leitura)	○	○	○	○	○	○	○
Os anúncios de publicidade interrompem a receção do que desejo ver (exemplo: está a ver um vídeo no Youtube e durante o mesmo, é interrompido por um vídeo publicitário que o impede de continuar a ver o que deseja)	○	○	○	○	○	○	○
Os anúncios de publicidade invadem as minhas pesquisas	○	○	○	○	○	○	○

Section 3. Perceptions About Digital Advertising (Distraction)

Este conjunto de questões diz respeito à perceção sobre distrações, provocadas pelas mensagens de publicidade, enquanto se utiliza a Internet.

Indique em que medida cada uma das seguintes frases melhor traduz a sua opinião, numa escala compreendida entre "Discordo totalmente" e "Concordo totalmente" (Responda tendo em conta a sua opinião):

Quando estou a utilizar a Internet...

	Discordo totalmente	Discordo em grande parte	Discordo em parte	Nem concordo nem discordo	Concordo em parte	Concordo em grande parte	Concordo totalmente
Os anúncios de publicidade distraem-me do conteúdo original dos sites	○	○	○	○	○	○	○
Os anúncios de publicidade interrompem o meu controlo na Internet (exemplo: está a abrir uma página da Internet, e de repente abrem-se 3 páginas extra com publicidade)	○	○	○	○	○	○	○
Os anúncios na Internet interrompem o fluxo de uma unidade editorial (exemplo: está a ler uma notícia no site do Jornal de Notícias e abre-se uma nova página com publicidade que interrompe a sua leitura)	○	○	○	○	○	○	○

Section 4. Perceptions About Digital Advertising (Irritation)

Este conjunto de questões diz respeito à perceção sobre irritação, provocadas pelas mensagens de publicidade, enquanto se utiliza a Internet.

Indique em que medida cada uma das seguintes frases melhor traduz a sua opinião, numa escala compreendida entre "Discordo totalmente" e "Concordo totalmente" (Responda tendo em conta a sua opinião).

Quando recebo publicidade na Internet, penso que:

	Discordo totalmente	Discordo em grande parte	Discordo em parte	Nem concordo nem discordo	Concordo em parte	Concordo em grande parte	Concordo totalmente
É negativa	○	○	○	○	○	○	○
É irritante	○	○	○	○	○	○	○
Não tem sentido	○	○	○	○	○	○	○
É desagradável	○	○	○	○	○	○	○
É repugnante	○	○	○	○	○	○	○
É vulgar	○	○	○	○	○	○	○
É terrível	○	○	○	○	○	○	○

Section 5. Perceptions About Digital Advertising (Personalization)

Este conjunto de questões diz respeito à sua perceção relativamente à publicidade personalizada, isto é, publicidade com base nas informações e interesses, dos consumidores, disponíveis online (exemplo: um indivíduo pesquisou ontem viagens para Faro na Internet. Hoje, enquanto utiliza a Internet, recebe publicidade de uma agência de viagens com promoções para Faro).

Indique em que medida cada uma das seguintes frases melhor traduz a sua opinião, numa escala compreendida entre "Discordo totalmente" e "Concordo totalmente" (Responda tendo em conta a sua opinião).

	Discordo totalmente	Discordo em grande parte	Discordo em parte	Nem concordo nem discordo	Concordo em parte	Concordo em grande parte	Concordo totalmente
A publicidade personalizada na Internet apresenta recomendações de compra que correspondem às minhas necessidades	o	o	o	o	o	o	o
A publicidade personalizada na Internet permite-me encomendar produtos direcionados para mim	o	o	o	o	o	o	o
No geral, a publicidade personalizada na Internet é adaptada à minha situação	o	o	o	o	o	o	o
A publicidade personalizada na Internet faz-me sentir num cliente único	o	o	o	o	o	o	o
Acredito que a publicidade personalizada na Internet é direcionada às minhas necessidades	o	o	o	o	o	o	o

Section 6. Perceptions About Digital Advertising (Privacy)

Este conjunto de questões diz respeito à preocupação dos utilizadores da Internet com a sua privacidade.

Indique em que medida cada uma das seguintes frases melhor traduz a sua opinião, numa escala compreendida entre "Discordo totalmente" e "Concordo totalmente" (Responda tendo em conta a sua opinião).

	Discordo totalmente	Discordo em grande parte	Discordo em parte	Nem concordo nem discordo	Concordo em parte	Concordo em grande parte	Concordo totalmente
Sinto-me desconfortável quando a minha informação é partilhada sem a minha autorização	o	o	o	o	o	o	o
Preocupo-me com o mau uso da minha informação pessoal	o	o	o	o	o	o	o
Tenho receio que a minha informação não esteja segura enquanto estiver disponível na Internet	o	o	o	o	o	o	o
Acredito que a minha informação pessoal seja frequentemente mal usada	o	o	o	o	o	o	o
Acho que as empresas compartilham informações dos consumidores sem permissão	o	o	o	o	o	o	o

Section 7. Digital Ad Avoidance

Este conjunto de questões diz respeito às ações realizadas pelos utilizadores da Internet para evitar a publicidade online.

Indique em que medida cada uma das seguintes frases melhor traduz a sua opinião, numa escala compreendida entre "Discordo totalmente" e "Concordo totalmente" (Responda tendo em conta a sua opinião).

	Discordo totalmente	Discordo grande em parte	Discordo em parte	Nem concordo nem discordo	Concordo em parte	Concordo em grande parte	Concordo totalmente
Ignoro intencionalmente quaisquer anúncios na Internet	o	o	o	o	o	o	o
Odeio todo o tipo de publicidade na Internet	o	o	o	o	o	o	o
Seria melhor se não existisse publicidade na Internet	o	o	o	o	o	o	o
Rejeito imediatamente publicidade na Internet, sem a abrir, ler ou ouvir.	o	o	o	o	o	o	o
Já pedi para me retirarem das listas de e-mails/telefone de forma a deixar de receber publicidade.	o	o	o	o	o	o	o

Section 8. Knowledge and Use of Ad Blockers

Sabia que existem programas que bloqueiam a publicidade de aparecer na Internet, mais conhecidos por ferramentas de adblocking ou adblockers? (exemplos: AdBlock, AdBlock Plus, etc.)?
- o   Conheço e uso atualmente
- o   Conheço e já usei
- o   Conheço, mas nunca usei
- o   Nunca ouvi falar

Condição: Em caso de "Conheço, mas nunca usei" ou "Nunca ouvi falar" estarem selecionados, o inquirido avança para o fim do bloco.

Como ganhou conhecimento sobre a existência das aplicações de adblocking?
- o   Através de amigos, colegas ou familiares
- o   Através da Internet, notícias ou outros canais de comunicação
- o   Não tenho a certeza/não me lembro
- o   Outro. Qual? _____

Em que dispositivos utiliza/utilizou as aplicações de adblocking? (Pode selecionar mais que uma opção)
- o   Computador fixo
- o   Computador portátil
- o   Telemóvel/Smartphone
- o   Tablet

Ao entrar num site, o mesmo solicita-o(a) a desativar a aplicação de adblocking de modo a que consiga aceder ao seu conteúdo. Como responde ou já respondeu a esta situação? (Pode selecionar mais que uma opção)
- o   Desativo a aplicação de adblocking para aquele site
- o   Elimino a aplicação de adblocking
- o   Abandono o website
- o   Não faço nada
- o   Nunca recebi essa solicitação ao entrar num site

Section 9. Demographic Information

Preencha, por favor, os seguintes campos relativos a dados sociodemográficos.
Género:
- o   Feminino
- o   Masculino

Idade:_____

Distrito de Residência
- o   Aveiro
- o   Beja
- o   Braga
- o   Bragança
- o   Castelo Branco
- o   Coimbra
- o   Évora
- o   Faro
- o   Guarda
- o   Leiria
- o   Lisboa
- o   Portalegre
- o   Porto
- o   Santarém
- o   Setúbal
- o   Viana do Castelo
- o   Vila Real
- o   Viseu
- o   Região Autónoma dos Açores
- o   Região Autónoma da Madeira

Habilitações Académicas: (Indique o maior grau que já completou)
- o   Inferior ao 9º ano
- o   9º ano
- o   12º ano
- o   Licenciatura
- o   Pós-graduação
- o   Mestrado
- o   Doutoramento
- o   Outro. Qual? _____

Ocupação:
- o   Estudante
- o   Trabalhador-estudante
- o   Trabalhador por conta própria
- o   Trabalhador por conta de outrém
- o   Desempregado/a
- o   Reformado/a

Rendimento mensal líquido individual:
- o   Sem rendimentos
- o   Até 500€
- o   Entre 501€ a 1000€
- o   Entre 1001€ a 1500€
- o   Entre 1501€ a 2000€
- o   Entre 2001€ a 2500€
- o   Entre 2501€ a 3000€
- o   Entre 3001€ a 3500€
- o   Mais de 3501€
- o   Não sei/Não respondo

Appendix 3. Original and Adapted Scales of Measurements

Constructs & Reference Authors	Original items	Adapted items
Disruption: Cho & Cheon (2004)	Internet ads disrupt my viewing of Web pages. Internet ads disrupt the reception of desired content. Internet ads intrude on my search for desired information.	Os anúncios de publicidade interrompem a minha visualização dos sites. Os anúncios de publicidade interrompem a receção do que desejo ver. Os anúncios de publicidade invadem as minhas pesquisas.
Distraction: Cho & Cheon (2004)	Internet ads distract me from the editorial integrity of Web pages. Internet ads infringe on my control. Internet ads interrupt the flow of an editorial unit.	Os anúncios de publicidade distraem-me do conteúdo original dos sites. Os anúncios de publicidade interrompem o meu controlo na Internet. Os anúncios na Internet interrompem o fluxo de uma unidade editorial.
Ad Irritation: Baek & Morimoto (2012)	When I receive personalized advertising on [media type], I think it is: Negative. Irritating. Pointless. Unappealing. Unattractive. Vulgar. Awful.	Quando recebo publicidade na Internet, penso que: É negativa. É irritante. Não tem sentido. É desagradável. É repugnante. É vulgar. É terrível.
Perceived Personalization: Baek & Morimoto (2012)	This personalized advertising on [media type] makes purchase recommendations that match my needs. I think that this personalized advertising on [media type] enables me to order products that are tailor-made for me. Overall, this personalized advertising on [media type] is tailored to my situation. This personalized advertising on [media type] makes me feel that I am a unique customer. I believe that this personalized advertising on [media type] is customized to my needs.	A publicidade personalizada na Internet apresenta recomendações de compra que correspondem às minhas necessidades. A publicidade personalizada na Internet permite-me encomendar produtos direcionados para mim. No geral, a publicidade personalizada na Internet é adaptada à minha situação. A publicidade personalizada na Internet faz-me sentir num cliente único. Acredito que a publicidade personalizada na Internet é direcionada às minhas necessidades.
Privacy Concerns: Baek & Morimoto (2012)	When I receive personalized advertising on [media type], I feel uncomfortable when information is shared without permission. I am concerned about misuse of personal information. I fear that information may not be safe while stored. I believe that personal information is often misused. I think companies share information without permission.	Sinto-me desconfortável quando a minha informação é partilhada sem a minha autorização. Preocupo-me com o mau uso da minha informação pessoal. Tenho receio que a minha informação não esteja segura enquanto estiver disponível na Internet. Acredito que a minha informação pessoal seja frequentemente mal-usada. Acho que as empresas compartilham informações sem permissão.
Ad Avoidance: Baek & Morimoto (2012)	I intentionally ignore any personalized advertising on [media type]. I hate any personalized advertising on [media type]. It would be better if there were no personalized advertising on [media type]. I discard (throw away, hang up) personalized advertising on [media type] immediately without opening (reading, listening to) it. I have asked marketers to take me off their e-mail (mailing, telephone) lists.	Ignoro intencionalmente quaisquer anúncios na Internet. Odeio todo o tipo de publicidade na Internet. Seria melhor se não existisse publicidade na Internet. Rejeito imediatamente publicidade na Internet, sem a abrir, ler ou ouvir. Já pedi para me retirarem das listas de e-mails/telefone de forma a deixar de receber publicidade.

Appendix 4. Descriptive Statistics, Creation of Dimensions and Principal Component Analysis

Constructs	Indicators	N	Minimum	Maximum	Mean (M) Item	Mean (M) Constructs	Std. Deviation (SD) Item	Std. Deviation (SD) Constructs	Cronbach's Alpha	Unidimensional loadings	Explained Variance
Disruption	Internet ads disrupt my viewing of Web pages.	536	1	7	5.34		1.968			.935	
	Internet ads disrupt the reception of desired content.	536	1	7	5.41	5.30	2.092	1.851	.913	.924	85.247%
	Internet ads intrude on my search for desired information.	536	1	7	5.15		1.955			.911	
Distraction	Internet ads distract me from the editorial integrity of Web pages.	536	1	7	4.33		1.908			.724	
	Internet ads infringe on my control.	536	1	7	5.35	5.03	1.946	1.573	.779	.899	69.786%
	Internet ads interrupt the flow of an editorial unit.	536	1	7	5.41		1.812			.873	
Perceived Ad irritation	Negative.	536	1	7	4.67		1.621			.722	
	Irritating.	536	1	7	5.57		1.436			.783	
	Pointless.	536	1	7	4.51		1.647			.774	
	Unappealing.	536	1	7	5.29	4.63	1.540	1.291	.892	.821	61.093%
	Unattractive.	536	1	7	3.79		1.818			.818	
	Vulgar.	536	1	7	4.56		1.627			.722	
	Awful.	536	1	7	4.06		1.866			.824	
Perceived Personalization	Personalized advertising on the internet makes purchase recommendations that match my needs.	536	1	7	4.33		1.723			.853	
	I think that personalized advertising on the internet enables me to order products that are tailor-made for me.	536	1	7	4.26		1.768			.883	
	Overall, personalized advertising on the internet is tailored to my situation.	536	1	7	3.97	3.79	1.727	1.467	.891	.896	70.111%
	Personalized advertising on the internet makes me feel that I am a unique customer.	536	1	7	2.68		1.737			.669	
	I believe that personalized advertising on the internet is customized to my needs.	536	1	7	3.73		1.830			.840	
Privacy Concerns	I feel uncomfortable when information is shared without permission.	536	1	7	6.27		1.274			.814	
	I am concerned about misuse of personal information.	536	1	7	6.39		1.190			.835	
	I feel fear that information may not be safe while stored.	536	1	7	6.14	6.02	1.335	1.040	.830	.859	60.810%
	I believe that personal information is often misused.	536	1	7	5.52		1.458			.745	
	I think companies share information without permission.	536	1	7	5.76		1.467			.623	
Ad Avoidance	I intentionally ignore any advertising on the internet.	536	1	7	5.68		1.412			.787	
	I hate any advertising on the internet.	536	1	7	4.58		1.776			.894	
	It would be better if there were no advertising on the internet.	536	1	7	4.38		1.982			.859	
	I discard advertising on the internet immediately without opening (reading, listening to) it.	536	1	7	5.21	5.03	1.706	1.380	.849	.870	64.175%
	I have asked marketers to take me off their e-mail (mailing, telephone) lists.	536	1	7	5.31		1.808			.546	

Appendix 5. Sample's Characterization

		n	*%*
Gender	Feminine	366	68.3
	Masculine	170	31.7
	Total (*N*)	536	100
Age	≤ 25 years old	245	45.7
	26 - 40 years old	145	27.1
	≥ 41 years old	146	27.2
	Total (*N*)	536	100
District of Residence	Aveiro	9	1.7
	Beja	1	0.2
	Braga	1	0.2
	Bragança	0	0
	Castelo Branco	2	0.4
	Coimbra	8	1.5
	Évora	3	0.6
	Faro	10	1.9
	Guarda	0	0
	Leiria	55	10.3
	Lisboa	403	75.2
	Portalegre	0	0
	Porto	12	2.2
	Santarém	7	1.3
	Setúbal	17	3.2
	Viana do Castelo	0	0
	Vila Real	0	0
	Viseu	3	0.6
	R. A. Açores	5	0.9
	R. A. Madeira	0	0
	Total (*N*)	536	100

		n	*%*
Academic qualifications	Less than 9th grade	17	3.2
	9th grade	26	4.9
	High school or less	167	31.2
	Bachelor	194	36.2
	Postgraduate	47	8.8
	Master	65	12.1
	Doctorate	0	0
	Other	20	3.7
	Total (*N*)	536	100
Occupation	Student	113	21.1
	Student worker	63	11.8
	Self-employed	60	11.2
	Employee	261	48.7
	Unemployed	22	4.1
	Retired	17	3.2
	Total (*N*)	536	100
Individual net monthly income	Without income	103	19.2
	Up to €500	49	9.1
	Between €501 and €1000	182	34
	Between €1001 and €1500	83	15.5
	Between €1501 and €2000	27	5
	Between €2001 and €2500	12	2.2
	Between €2501 and €3000	5	0.9
	Between €3001 and €3500	3	0.6
	More than €3501	5	0.9
	Do not know/answer	67	12.5
	Total (*N*)	536	100

Appendix 6. Linearity[1]: Multiple Linear Regression's Assumption

Dependent Variable	Independent Variables	Disruption	Distraction	Ad Irritation	Perceived Personalization	Privacy Concerns
Ad Avoidance	Sig. (2-tailed)	.000	.000	.000	.000	.000
	Pearson Correlation (*r*)	.260	.294	.611	-.358	.346

(1) All independent variables are correlated with ad avoidance (*p* < 0.01), confirming the linearity assumption.

Appendix 7. Summary of Multiple Linear Regression's Assumptions

| Variables	N	Normality[2]		Independence of Errors[3]	Residual Statistics[4]	Collinearity Statistics[5]	
		K-S	Sig.	Durbin-Watson (d)	Residual's Mean	Tolerance	Variance Inflation Factor (VIF)
(Constant)							
Consumer Disruption	536	.186	.000			.751	1.331
Consumer Distraction	536	.134	.000	1.875	.000	.680	1.471
Ad Irritation	536	.046	.000			.779	1.283
Perceived Personalization	536	.093	.000			.880	1.137
Privacy Concerns	536	.172	.000			.892	1.121
Ad Avoidance	536	.077	.000				

(2) In terms of the variables' normality, none present a normal distribution ($p < 0.05$). However, it is possible to assume a normal distribution through the Central Limit Theorem (CLT), which states that given a considerable size of the sample (536>30) it is possible to assume a normal distribution.

(3) By analysing Durbin-Watson's test, it can be verified a score near 2 (1.875), meaning that residuals are not strongly correlated, which confirms the independence of errors assumption.

(4) In terms of the assumption that all random residual variables have a null expected value, the same is confirmed (residuals' mean equals .000).

(5) Concerning the inexistence of multicollinearity, this assumption is confirmed since tolerance's scores are close to zero and VIF's values are inferior to 10.

Appendix 9. Homoscedasticity Assumption[6]: Scatterplot
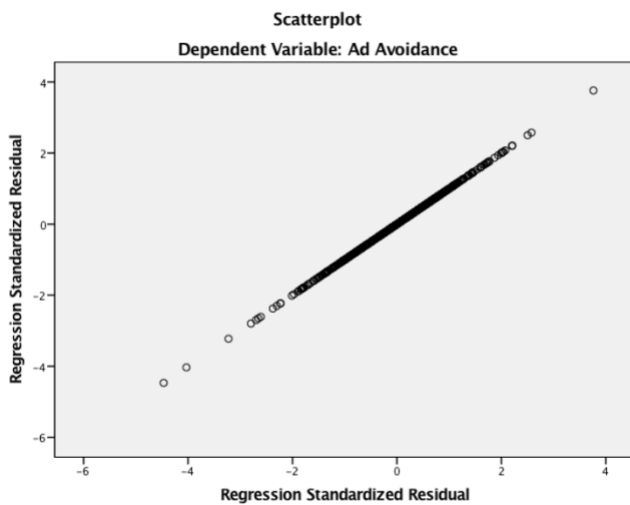
(6) The homoscedasticity assumption can be checked though this scatterplot of the standardized residuals by the regression standardized predicted value. As it can be seen, all residuals approximately maintain a constant variance.

Appendix 10. Normality of Residuals Assumption[7]: Normal Probability Plot
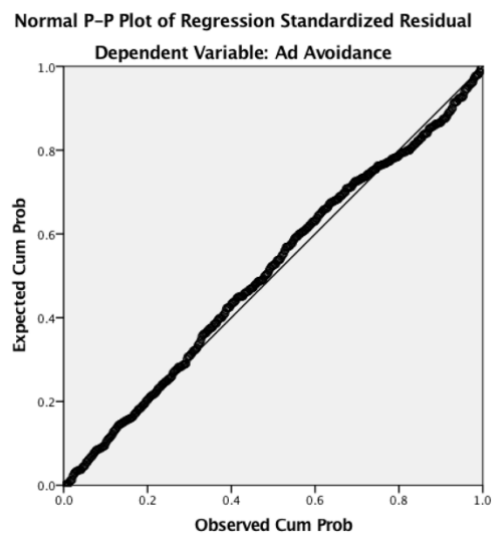

(7) The above histogram of residuals confirms that they are normally distributed. As it can be observed, even though not matching perfectly, there is a similar diagonal match, suggesting that the residuals are approximately normally distributed.

Appendix 8. Summary of Multiple Linear Regression Method (Enter Method)

Variables	Adjusted R Square	ANOVA			Std. Error of Estimate	Coefficients			
		F	df	Sig.		Standardized Coefficients (β)	t	Sig.	Unstandardized Coefficients (B)
(Constant)							3.640	.000	1.250
Disruption						.113	3.066	.002	.084
Distraction						.013	.333	.739	.011
Perceived Ad Irritation	.452	89.264	5	.000	1.02142	.485	13.369	.000	.518
Perceived Personalization						-.175	-5.118	.000	-.164
Privacy Concerns						.188	5.555	.000	.250

Predictors: (Constant): Disruption, Distraction, Perceived Ad Irritation, Perceived Personalization, Privacy Concerns;
Dependent Variable: Ad Avoidance
Significance Level: 0.05

Appendix 9. Distance between Agglomeration Coefficients (Ward's Method)
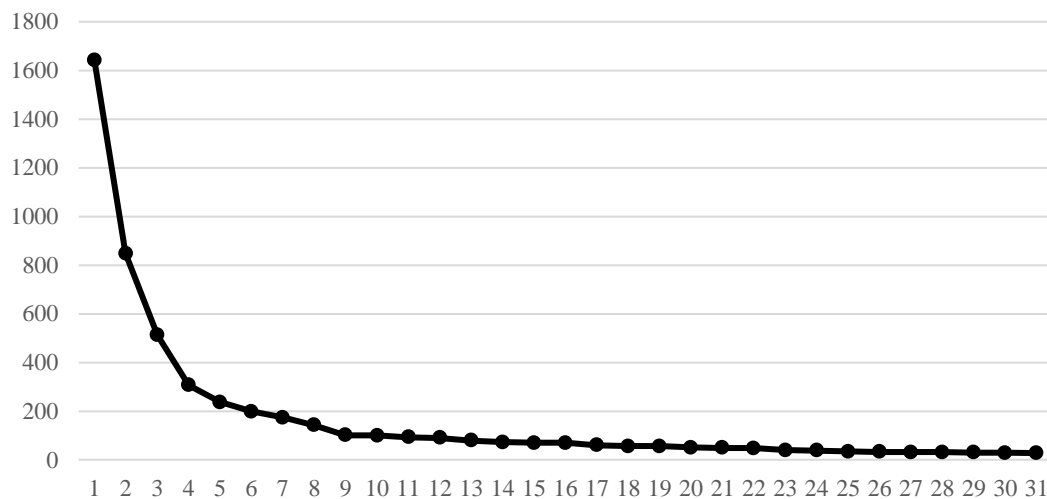
Appendix 10. Cluster Analysis: ANOVA

	Cluster		Error		F	Sig.
	Mean Square	df	Mean Square	df		
Consumer Disruption	721.306	2	.734	533	983.260	.000
Consumer Distraction	215.606	2	1.675	533	128.704	.000
Perceived Ad Irritation	124.484	2	1.206	533	103.203	.000
Perceived Personalization	95.910	2	1.800	533	53.272	.000
Privacy Concerns	30.025	2	.974	533	30.842	.000
Ad Avoidance	201.901	2	1.153	533	175.040	.000

The F tests should be used only for descriptive purposes because the clusters have been chosen to maximize the differences among cases in different clusters. The observed significance levels are not corrected for this and thus cannot be interpreted as tests of the hypothesis that the cluster means are equal.

Appendix 11. Usage and Knowledge of Adblocking Tools

		Know and currently use		Know and have used		Have heard about it, but never used		Never heard about it	
		n	%	*n*	%	*n*	%	*n*	%
Gender	Feminine	115	59	46	62.2	99	73.3	106	80.3
	Masculine	80	41	28	37.8	36	26.7	26	19.7
Age Groups	≤ 25 years old	128	65.6	30	40.5	50	37	37	28
	26 - 40 years old	43	22.1	23	31.1	39	28.9	40	30.3
	≥ 41 years old	24	12.3	21	28.4	46	34.1	55	41.7
Occupation	Student	61	31.3	12	16.2	20	14.8	20	15.2
	Student-worker	31	15.9	10	13.5	14	10.4	8	6.1
	Self-employed/Employee	93	47.7	46	62.2	92	68.1	90	68.2
	Without professional occupation	10	5.1	6	8.1	9	6.7	14	10.6
Academic Qualifications	Until 12th grade	57	29.2	31	41.9	45	33.3	77	58.3
	Bachelor degree	81	41.5	26	35.1	53	39.3	34	25.8
	Postgraduate/Master/Doctorate	53	27.2	16	21.6	32	23.7	11	8.3
	Others	4	2.1	1	1.4	5	3.7	10	7.6

Appendix 13. Devices Where Ad Blockers are Used

		n	%
Devices where adblocking tools are or have been used[8]	Desktop	113	26.1
	Laptop	233	53.8
	Smartphone	59	13.6
	Tablet	28	6.5
Total (*N*)		433	100

(8) Dichotomy group tabulated at value 1.

Appendix 12. Source of Knowledge on Ad Blockers

		n	%	Valid %	Cumulative %
Valid	Through friends, colleagues or family	161	30	59.9	59.9
	Through the internet, news or other communication channels	74	13.8	27.5	87.4
	Not sure/Don't remember	25	4.7	9.3	96.7
	Other	9	1.7	3.3	100
	Total	269	50.2	100	
Missing	System	267	49.8		
Total (*N*)		536	100		

Appendix 14. Action done when received a request to disable adblocker

		Responses		% of Cases
		n	%	
When receiving requests by websites to disable ad blocking programs, what do you do? [9]	Deactivate it only for that website	159	52	59.1
	Eliminates the ad blocker	2	0.7	0.7
	Leave the website	91	29.7	33.8
	I do nothing	38	12.4	14.1
	Never received that request	16	5.2	5.9
Total (*N*)		306	100	113.8

(9) Dichotomy group tabulated at value 1