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PUBLICIDADE PERSONALIZADA E PRIVACIDADE DOS DADOS NO FACEBOOK: O CASO DE PORTUGAL

PERSONALISED ADVERTISING AND DATA PRIVACY ON FACEBOOK: THE CASE OF PORTUGAL

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Dissertação apresentada à Universidade de Aveiro para cumprimento dos requisitos necessários à obtenção do grau de Mestre em Gestão, realizada sob a orientação científica do Doutor Manuel Au-Yong Oliveira, Professor Auxiliar com Agregação do Departamento de Economia, Gestão e Engenharia Industrial da Universidade de Aveiro.

“If you’re not paying for it, you become the product.” - Forbes (2012)

o júri

presidente

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palavras-chave

Preocupação com a privacidade dos dados, Redes Sociais, Dados, Paradoxo da Privacidade, Monitorização, Ciberparanoia

resumo

A evolução do mundo tecnológico permitiu que as empresas e os consumidores estivessem cada vez mais conectados, especialmente devido às redes sociais. A par do desenvolvimento das redes sociais, a publicidade personalizada cresceu exponencialmente, tornando-se na estratégia de publicidade mais eficaz pois permite às empresas interagir com os consumidores de uma forma customizada e oferecer produtos e serviços que estejam de acordo com os seus perfis. No entanto, apesar de a publicidade personalizada oferecer benefícios tanto para as empresas como para os consumidores, nos últimos anos verificou-se o aumento da preocupação com a privacidade dos dados. Assim, esta investigação tem como objetivo compreender a lacuna que existe entre a publicidade personalizada e a preocupação com a privacidade dos dados, pois os utilizadores querem receber anúncios com elevada capacidade de previsão das suas necessidades, no entanto a recolha e a utilização dos seus dados causa insegurança em relação à sua privacidade. Como forma a atingir este objetivo, foi utilizado um método de investigação misto através da criação de um questionário baseado na literatura existente. Um total de 583 respostas válidas foram recolhidas e analisadas utilizando o *software IBM SPSS Statistics* versão 28 para a análise dos dados quantitativos e o *Software NVivo* versão 12 para a análise dos dados qualitativos. Os resultados permitiram o suporte de três hipóteses de investigação e a rejeição de quatro hipóteses. As conclusões obtidas indicam que a publicidade personalizada causa preocupação com a privacidade dos dados, sendo que através da análise temática realizada a uma das perguntas qualitativas foi possível determinar 17 situações em que os inquiridos afirmaram que este tipo de publicidade ameaçava a sua privacidade. Além disso, o resultado estatisticamente significativo do teste qui-quadrado sugere que os consumidores têm comportamentos que visam proteger os seus dados no Facebook, não suportando o paradoxo da privacidade. Ademais, esta investigação sugere a existência de uma relação entre a publicidade personalizada e a ciberparanoia visto que os consumidores acreditam que estão constantemente a ser ‘ouvidos’ através do microfone do seu telemóvel e que as suas conversas são utilizadas para a criação de anúncios personalizados, considerando também que tudo o que fazem na Internet é monitorizado e usado para fins publicitários. Por fim, uma vez que não foi encontrada literatura sobre a publicidade personalizada e a ciberparanoia, pode-se considerar que este estudo apresenta um contributo inovador. Contudo, sendo esta investigação um estudo exploratório, é necessário haver mais literatura sobre este tema.

keywords

Data Privacy Concerns, Social Media, Data, Privacy Paradox, Monitorization, Cyber-Paranoia

abstract

The evolution of the technological world has allowed companies and consumers to be increasingly connected, especially due to social networks. Along with the development of social networks, personalised advertising has grown exponentially, becoming the most effective advertising strategy as it allows companies to interact with consumers in a customised way and offer products and services that are in accordance with their profiles. However, although personalised advertising offers benefits to both companies and consumers, in recent years the concern about data privacy has increased. Thus, this research aims to understand the gap existing between personalised advertising and data privacy concerns, since users want to receive ads with high predictive ability of their needs, however the collection and use of their data causes insecurity in relation to their privacy. As a way to achieve this objective, a mixed-methods approach was used by creating a questionnaire based on the existing literature. A total of 583 valid responses were collected and analysed using IBM SPSS Statistics version 28 software for quantitative data analysis and NVivo Software version 12 for qualitative data analysis
The results allowed the support of three research hypotheses and the rejection of four hypotheses. The conclusions obtained indicate that personalised advertising causes data privacy concerns and through the thematic analysis performed to one of the qualitative questions it was possible to determine 17 situations in which respondents stated that this type of advertising threatened their privacy. Furthermore, the statistically significant result of the chi-square test suggests that consumers seek to protect their data on Facebook, not supporting the privacy paradox. Furthermore, this research suggests the existence of a relationship between personalised advertising and cyber-paranoia, as consumers believe they are constantly being 'listened to' through their mobile phone's microphone and that their conversations are used for delivering personalised advertisements, while also believing that everything they do on the Internet is monitored and used for advertising purposes. Finally, since no literature was found on cyber-paranoia and personalised advertising, it can be considered that this study presents an innovative contribution. However, since this investigation is an exploratory study, there is a need for further literature on this subject.

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Chapter 1 - Introduction

The continuous technological development and the growth of Internet accessibility created a dynamic online environment characterised by the rapid emergence of new platforms and applications such as social media (Wirtz et al., 2017). Social media has become a very important means of communication in our society nowadays as it is one of the most relevant landscapes of human interaction and most people are present on at least one social network platform (Walrave et al., 2018; Shanahan et al., 2019).

The business environment expanded to social media where companies use the online market to sell their products and services (Wirtz et al., 2017; Shanahan et al., 2019; Al Qudah et al., 2020; Nuseir, 2020). The exponential growth of social media resulted in the creation of social commerce (s-commerce), the newer way of doing business where people buy and sell products and services directly through these platforms (Tran, 2020b). Social commerce became possible because social networks such as Facebook allow commercial transactions and advertising (Tran, 2020b).

Firms are increasing their investments in social media marketing and this trend is expected to grow due to the unique opportunities these platforms have to offer (Bang & Lee, 2016; Shanahan et al., 2019). Studies prove that brands that regularly interact with their customers online tend to obtain higher customer loyalty and higher profitability (Shanahan et al., 2019). Social networks are used to create and reinforce brand awareness since they are a useful tool for customers to obtain information about brands and their products (Tran, 2020a) and they are also the ideal means for achieving brand attachment due to their ability to tailor messages which provide various interaction possibilities (Shanahan et al., 2019).

Social networks such as Facebook, Instagram, Twitter, and WhatsApp are considered the ‘Big Four’ since they are the most popular platforms that modified the way people communicate, interact, and the way information is propagated (Nuseir, 2020). These media offer new possibilities to small and large companies to interact and engage daily with their customers especially because they offer extensive customer bases (Nuseir, 2020). Facebook is considered the most popular social media platform and social advertising platform (Nuseir, 2020).

Social media went from being just socialisation platforms to benefiting businesses through advertising and the development of these platforms enabled companies to be seen globally and this stimulated the growth of advertising (Nuseir, 2020). In the past, ads were delivered directly by the

publisher with a one-size-fits-all approach, but with the development of the Web, it became easy to track users' online behaviour and personal information and deliver more relevant, useful, and interesting ads (Estrada-Jiménez et al., 2017). Social media are characterised by excessive competition and noise, making it difficult to attract customers' attention, and this is why personalised advertising became an effective tool to reach customers (Tran, 2020a).

However, the growth of personalised advertising increased data privacy concerns (Walrave et al., 2018; Tran, 2020b; Van den Broeck et al., 2020; Zimaitis et al., 2022). Although some authors sustain that privacy is already 'dead' (Akanbi, 2021; Acquisti et al., 2020), surveys show that privacy is a primary need for users in the digital era (Kokolakis, 2017). The amount of private data collected by social media providers and the covert information collection methods that do not respond to customers' needs for openness and transparency lead to vulnerability and fear of privacy violations (Aguirre et al., 2015). The occurrence of many controversies and data breach incidents has raised people's awareness of this issue and increased concerns regarding the privacy of their data on social media (Choon, 2018).

1.2. Subject Relevance

The literature shows that companies are increasingly investing in social media advertising since it has been proven to be more effective than traditional media advertising and offers unique business opportunities (Estrada-Jiménez et al., 2017; Tran, 2017). Personalised advertising is considered the most effective and profitable method of advertising (Estrada-Jiménez et al., 2017), and ads are increasingly getting more tailored since personalisation is considered to be the future of marketing (Boerman et al., 2017; Taylor & Carlson, 2021). Personalised ads offer benefits to both companies and customers and have become an area of special interest for marketers (Aguirre et al., 2015; Tran, 2017; Shanahan et al., 2019; Tran, 2020b).

The interest in the literature and business in personalised advertising on social media has grown exponentially over the years (Wirtz et al., 2017), however, there is still a lack of literature on this subject (Bang & Lee, 2016; Tran, 2017; Wirtz et al., 2017; Shanahan et al., 2019; Tran, 2020a).

Facebook is the most popular social platform nowadays and became the most successful advertising platform (Bang & Lee, 2016; Nuseir, 2020), continuously improving and developing a variety of advertising tools and formats (Semeradova & Weinlich, 2019). Although Facebook is the

most popular ad providers, it has been under great surveillance regarding its data collection methods and data privacy policies, especially after the Cambridge Analytica Scandal (B. Kim & D. Kim, 2020). Furthermore, this social platform has been implicated in many privacy controversies which resulted in a decreased trust in the platform, in a negative impact on the ad effectiveness, and reinforced consumers' need for privacy (Choon, 2018).

Since personalised advertising has grown exponentially over the last years and Facebook is the most popular social advertising medium, the study of personalised advertising on this platform is a relevant topic to be investigated (Tran, 2017). Moreover, the subject of consumer privacy in the digital age is not yet fully understood, hence more research is needed to better understand this phenomenon (Li & Nill, 2020).

1.3. Research Questions

The conduction of this investigation will be guided by a set of research questions, which will influence the research design and all steps regarding its operationalisation.

Studies prove that users want to receive more personalised ads since they perceive them as being more relevant and useful, however, personalised ads create privacy concerns (Kokolakis, 2017), revealing the existence of a gap between privacy and personalisation. Consumers want to receive relevant ads that better respond to their needs and demand better probabilistic predictions, yet they oppose ad targeting based on tracking their profiles and online activities and are concerned about their data privacy (Ruckenstein & Granroth, 2020).

Therefore, this dissertation aims to understand the gap existing between personalised advertising and data privacy concerns on Facebook, being this a subject of special relevance since it is a contemporary theme in our society that has been under great awareness but with little literature: "The trade-off between consumers' perceptions of their privacy and the ability to receive more relevant, useful messages is an issue in need of more research." (Taylor & Carlson, 2021, p. 56).

Regarding this subject, two questions arise and they are the research questions that are expected to be verified and analysed by the results of this study, and they are as follows:

Q1. What is the impact of Facebook's personalised advertising on consumers' privacy concerns?

Q2. In which situations does personalised advertising threaten consumers' privacy?

As a result of the mentioned research components, it was decided that the methodological approach to be undertaken is a mixed-methods approach obtained through a survey by questionnaire in order to gather a cohesive, accurate, and adequate dataset for the investigation in question, all being scientifically supported by the literature review.

1.4. Structure

This dissertation is divided into 7 chapters. The first chapter comprises the introduction and contextualization of the subject, its relevance, and the description of the structure of the dissertation, as a way of disclosing the theme and the intended direction of this study.

In the second chapter (literature review) the existing literature and the various studies developed so far on this theme are analysed and used as a basis for this dissertation. This chapter offers a comprehensive analysis of the constructs under study - digital advertising, personalisation, personalised advertising, data privacy, and privacy paradox.

The third chapter presents the research hypotheses to be tested in this investigation which were based on the literature review.

Next, chapter 4 encompasses the methodological approach where the research methodology implemented is presented, defining the population and sample, the questionnaire construction and structure, and the pre-test of the data collection method.

In turn, chapter 5 comprises the results obtained with the questionnaire by first presenting the quantitative results which include the characterisation of the sample, descriptive statistics, reliability analysis, spearman's rho correlations, and chi-square tests. Then, the qualitative results are presented through thematic analyses, frequency query, and word cloud.

Chapter 6 corresponds to the discussion of the results obtained, analysing, and confronting them with the literature. Moreover, in this chapter, the validation/rejection of the research hypotheses is also carried out.

Finally, chapter 7 brings the conclusions of the research undertaken, specifying a set of final considerations from the author, the contributions of the study, the limitations encountered in the course of the investigation, as well as suggestions for future investigations.

Chapter 2 - Literature Review

2.1. Digital Advertising

Digital advertising was born in 1993 and became a major advertising medium, with forecasts that it will exceed $332 billion on a global scale (Geradin et al., 2021). It is defined as "advertising using digital media, including branded content appearing on social media channels and messages from companies in the form of blogs, Facebook posts or branded tweets" (Santoso et al., 2022, p. 449). This type of advertising includes not only the traditional online media (e.g., the Internet) but also offline channels such as in-game advertising, advergame, smartphone, smart TV, and AI speakers (Lee & Cho, 2020). Digital advertising is also known as online advertising, online marketing, Internet advertising, and web advertising (Kamaruddin et al., 2020).

Some scholars recently suggested a new concept of digital advertising: 'smart advertising', however, the term is still unfamiliar in the advertising industry (Lee & Cho, 2020). Smart advertising can be defined as a type of advertising that "incorporates efficient advertising techniques based on digital technologies such as targeted advertisement display and the delivery of time and/or location-sensitive messages (e.g., personalised or adaptive content)" (Lee & Cho, 2020, p. 334).

The history of advertising demonstrates its importance to stimulate purchase decisions and influencing customers' desires and tastes (Ruckenstein & Granroth, 2020). This tool became an essential strategy in marketing since it is a medium used by marketers to communicate and influence customers to use and perceive the superiority of the products and services compared to those of competitors (Kamaruddin et al., 2020). Moreover, digital advertising uses interactive technologies in media that allow marketers to offer an upgraded brand experience (Lee & Cho, 2020). The commercial value of online advertising has increased exponentially over the last few years (Kamaruddin et al., 2020).

Communication through mass media is outdated (Taylor & Carlson, 2021). The world is moving towards digitalisation and consequently, the 'old' advertising medium is evolving into an online advertising era (Kamaruddin et al., 2020). The digital era significantly increased the use of online advertising and data use for sales purposes, especially with the growth of social media (Ruckenstein & Granroth, 2020).

Nowadays, one of the major challenges of online advertising is the competition in the online environment and the overload of advertising which makes it difficult to attract consumers' attention (Taylor & Carlson, 2021; Santoso et al., 2022). The need to be noticed resulted in changes in how advertising is executed (Taylor & Carlson, 2021). To grab customers' attention, marketers started to use interruptive formats such as in-stream videos, pop-ups, and highly personalised content (Santoso et al., 2022).

The future of advertising is expected to be more personalised content and that explains why top companies such as Google and Facebook have been operating Big Data and Artificial Intelligence for a long time (Lee & Cho, 2020). The availability of large amounts of detailed consumer information enabled the development of data-driven marketing communication which allows marketers to use data to offer narrow communication methods that better match customers' profiles (Lee & Cho, 2020). The use of Big Data has revolutionised online advertising and its ability to deliver tailored advertising based on customers' characteristics and online behaviour by using data collected through search engines, social networks, and websites (Taylor & Carlson, 2021).

2.2. Personalisation

The construct of personalisation was developed in the 19th century and it was associated with segmentation, targeting, and positioning (Tran, 2017). This construct has been later extended to include tailored products, messages, and locations (Tran, 2017). Personalisation is characterised as "the ability to proactively tailor products to tastes of individual consumers based upon their personal and preference information" (Cloarec et al., 2022, p. 647).

It can also be defined as the process of creating tailored communication for specific customers based on their unique characteristics and interests (Tran, 2017; Tran, 2020a). Other researchers refer to it as being a strategic development and adaptation of the content to meet customers' interests, characteristics, behaviours, and preferences (Strycharz et al., 2019). Although there are many definitions of personalisation, there seems to be an agreement that it is the process through which companies use customers' data to deliver customised solutions (Tran, 2017).

Personalisation is being used daily by companies, both online and offline (Aguirre et al., 2015). For example, in face-to-face service encounters, employees adapt their behaviours to meet customers' specific needs and characteristics, for instance by addressing the customer by its name (Aguirre et

al., 2015). The use of personalisation gained bigger applicability in the online environment (Aguirre et al., 2015). Search engines (such as Google) adapt each user's results by using their prior search data. Moreover, online retailers (such as Amazon) offer personalised suggestions using collaborative filtering which is based on the user's similarity to other users' interests (Aguirre et al., 2015).

This tool is especially effective in direct marketing such as in email marketing, where marketers tailor the content using customers' specific characteristics (Walrave et al., 2018). A study comparing generic and personalised advertising of an email newsletter concluded that, although the personalisation of the email was limited to the person's name, it positively affected the response to the email (Walrave et al., 2018).

Firms use personalisation to customise their interactions by emphasising a specific product or certain features that users may have an interest in (Shanahan et al., 2019). Additionally, personalisation provides the possibility to increase the emotional attachment of customers that are not familiar with the product (Shanahan et al., 2019) and it has a positive impact on the brand's persuasive power (Walrave et al., 2018).

Personalisation has the objective of offering the right message to the right person at the right time and provide a better user experience (Estrada-Jiménez et al., 2017; Tran, 2020a). To achieve this, companies identify the customers, gather their online data, analyse their interests and preferences, and use this information to develop tailored ads (Tran, 2020a). It is possible to distinguish three stages of personalisation: learning, matching, and evaluation (Aguirre et al., 2015). The learning stage occurs when the company collects and analyses information to better understand customers' needs and interests (Aguirre et al., 2015). The matching stage happens when the company uses the information collected to create personalised solutions (Aguirre et al., 2015). The final stage (evaluation) concerns the importance of measuring the effectiveness of the strategy, for example by analysing the click-through rate (Aguirre et al., 2015).

In traditional media, personalisation is known for its enhancements in brand attachment, brand engagement, and brand loyalty (Shanahan et al., 2019). Although the effectiveness of personalisation is well-known in traditional media, there is a lack of literature regarding this subject in social media (Tran, 2017; Wirtz et al., 2017; Shanahan et al., 2019; Al Qudah et al., 2020; Tran, 2020a) and this topic is particularly important to be studied due to the different nature of the online

world (Shanahan et al., 2019). Social networks are characterised by a more intimate environment where individuals can interact with the firm's posts and advertisements (Shanahan et al., 2019).

2.3. Personalised Advertising

Personalised advertising is the strategic use and adaptation of customers' specific characteristics and behaviours collected from online data to develop personally relevant advertisements (Boerman et al., 2017; Wirtz et al., 2017; Strycharz et al., 2019; Tran, 2020a). Personalised advertising is also known as targeted advertising, one-to-one advertising, interest-based advertising (Al Qudah et al., 2020), and behavioural advertising (Geradin et al., 2021).

Personalised advertising revolutionised the marketing business and has expanded significantly over the last 15 years (Li & Nill, 2020). By collecting personal information to develop tailored promotional messages, companies offer relevant ads and target only those that will benefit most from the content presented (Li & Nill, 2020).

In the past, the online audience was not as fragmented and the virtual environment was not as congested as it is nowadays, and that is why mass advertising with a one-size-fits-all approach was the strategy adopted by most publishers (Estrada-Jiménez et al., 2017). With the development of the Internet, advertising has evolved substantially in terms of reaching customers in an individual way (Estrada-Jiménez et al., 2017). The literature supports that nowadays non-personalised advertising is no longer an effective strategy since users find tailored ads more relevant and useful than generic ads (Kim et al., 2019; Al Qudah et al., 2020; Ruckenstein & Granroth, 2020).

Companies are now investing in personalised advertising, which has proved to be more effective than traditional media advertising (Tran, 2017). Social media revolutionised how brands interact with their customers, offering multifaceted interactions including written information, voice, and images, being these characteristics of human ambience (Nuseir, 2020). This variety of information exchange formats improves communication and reinforces its use (Nuseir, 2020).

Social media allows companies to create personalised ads and many businesses are currently adopting this strategy as their only method of advertising (Nuseir, 2020). Online platforms allow marketers to create targeted ads with better efficiency and accuracy compared to traditional advertising (Kim et al., 2019). The development of search engines and social media capabilities to

collect and use data offered firms new targeting possibilities, including behavioural retargeting, (e.g., show an ad with a product that the user recently searched), content-based targeting (e.g., create an ad based on what the user recently read), and keyword-based targeting (e.g., deliver an ad related to the keywords the user uses to search) (Kim et al., 2019). Some of the targeting mechanisms used are browsing history, IP address, plug-ins, among other mechanisms related to the Web browser (Estrada-Jiménez et al., 2017).

Social platforms revolutionised the way companies have access to users' data (Walrave et al., 2018; Al Qudah et al., 2020) and people freely share personal information about themselves on social networks (Al Qudah et al., 2020). Furthermore, some people do not share personal information on social media because they are concerned about their data protection, but they still end up receiving targeted ads resulting from their friends' data, by assuming they have the same interests (Al Qudah et al., 2020).

Companies can collect three types of data: behavioural data (e.g., purchase history), geolocation data (e.g., GPS), and social data (e.g., friends' online activities) (Cloarec et al., 2022). Nowadays, companies have at their disposal a massive amount of information related to users' preferences, habits, demographic data, browsing history (Semeradova & Weinlich, 2019; Shanahan et al., 2019; Tran, 2020a; Liyanaarachchi, 2021), shopping patterns (Estrada-Jiménez et al., 2017; Shanahan et al., 2019), payment records, search quarries (Liyanaarachchi, 2021), social relationships, thoughts, emotions (Al Qudah et al., 2020). Additionally, consumers provide their data when they purchase online, click ads, use search engines, upload content to their social platforms, take part in customer loyalty programs, and use their personal Google ID or Facebook profile to access other services (Ruckenstein & Granroth, 2020).

Moreover, companies can use the information that people post on their profiles or they can infer information by analysing their online behaviour, for example the type of publications they click on (Kim et al., 2019). However, the use of inferred information tends to be less effective and it creates higher privacy concerns (Kim et al., 2019).

There are a variety of strategies that can be used to create personalised messages and the three most popular are: identification, expectation, and contextualisation (Tran, 2020b). The identification strategy relates to the use of the person's name to create a more tailored message (Tran, 2020b). Expectation allows convincing the customer that the message is delivered for him/her, for instance by writing 'This offer is especially for you!' (Tran, 2020b). Finally, the contextualisation strategy

means the creation of a message using personal information such as demographic data, social identity, and group membership (Tran, 2020b).

Hyper-targeting advertising or microtargeting advertising is the collection of detailed customer data and the use of marketing automation to offer extremely personalised ads to specific customers (Semeradova & Weinlich, 2019). This strategy may help companies to deepen their understanding of their customers, focus on specific segments, and create relevant experiences (Semeradova & Weinlich, 2019). However, some studies suggest that hyper-targeting may cause a negative effect on customers' reactiveness and purchase intention due to data privacy concerns (Semeradova & Weinlich, 2019). When people are confronted with hyper-targeted ads, they tend to experience privacy concerns and feelings of invasiveness (Semeradova & Weinlich, 2019). Ads with a medium level of personalisation achieve better results than microtargeting advertisements (Semeradova & Weinlich, 2019).

2.3.1. Ad Avoidance, Ad Scepticism and Ad Credibility

Ad avoidance is an important area that has long been studied by advertisers and marketers as it is one of the biggest obstacles to advertising effectiveness (Tran, 2017). It describes the actions of users to prevent their exposure to ads (Tran, 2017; Van den Broeck et al., 2018) and it is frequently associated with ad relevance because customers tend to avoid advertisements they perceive as being irrelevant or uninteresting (Al Qudah et al., 2020). Since personalised ads are more self-relevant, they tend to generate lower levels of ad avoidance (Tran, 2017).

Users can avoid ads by using three strategies: ignoring ads (e.g., not giving attention to posts described as 'sponsored'), avoiding ads (e.g., not looking at the right sidebar), and installing ad-blockers to reduce the number of ads received (Van den Broeck et al., 2018). 'Advertising blindness' suggests that people consciously or unconsciously avoid the areas on a website where they expect to find advertisements (Semeradova & Weinlich, 2019).

Ad avoidance is also a strategy used by users to protect themselves against advertisers' persuasion attempts (Van den Broeck et al., 2018). Some factors affecting ad avoidance may include demographics (e.g., age), media relationship (e.g., time exposed to media), communication obstacles (e.g., search difficulties), perceived goal obstacles, bad experiences, and perceived 'ad

clutter' (Tran, 2017). Moreover, some researchers suggest that ad characteristics such as size, placement, location, and timing are key influencers of ad avoidance (Van den Broeck et al., 2018).

Ad scepticism is the customer's tendency to disbelieve the content of ads, resulting in a greater tendency to avoid ads and to form negative responses about them (Tran, 2017). In addition, ad scepticism is an obstacle to persuasive messages because if customers are less interested in the message, they become less responsive (Tran, 2017). When customers do not trust ads, they may consider that companies are using advertisements to manipulate and influence their interests (Tran, 2017), and trust is very important since it is related to safety and reliability (Kim et al., 2019). Since personalised advertisements are more self-relevant, they create less ad avoidance and ad scepticism than mass advertising (Tran, 2017).

Ad credibility measures the extent to which customers evaluate ads as being truthful and credible (Tran, 2017). Credibility is one of the key components of the effectiveness of persuasive messages (Tran, 2017). When an ad is perceived as being unreliable, customers usually ignore it (Tran, 2017). On the contrary, when an advertisement is perceived as being believable it creates positive attitudes regarding the brand and greater purchase intention (Tran, 2017). These positive responses are emphasised when customers are exposed to personalised ads as they tend to be seen as more credible (Tran, 2017).

2.3.2. Brand Expressiveness

Brand expressiveness is the "customers' impression of the extent to which the particular brand increases individuals' social self or mirrors their inner self" (Tran, 2020b, p. 3). Personalised ads enhance brand expressiveness since they are based on personal information and customers tend to evaluate them as being highly self-expressive, increasing the chance of developing an emotional bond with the brand (Tran, 2020b). Social media offers an environment where people can express their opinions and find others that share the same opinions, contributing to the consolidation of one's social identity (Tran, 2020b).

Personalised ads stimulate positive reviews of a product enabling customers to see that other people are satisfied with the product and develop a favourable purchase decision (Shanahan et al., 2019). Electronic word-of-mouth is one of the most effective ways to attract new leads since people who

use online platforms are very likely to publish their opinions regarding a product or brand and share the information they found interesting with their friends (Nuseir, 2020).

2.3.3. Brand Identification

Theories of social identity affirm that individuals create their social identities based on their social groups, therefore companies that create unique and meaningful social identities have a greater chance to satisfy customers' self-defining needs (Tran, 2020a). Customer brand identification determines the extent to which customers identify themselves with the brand and the identification with it results in positive associations and higher brand loyalty (Tran, 2020a; Tran, 2020b). When people perceive that they share a similar personality, values, and lifestyle with the brand they tend to form strong affective bonds (Tran, 2020a; Tran, 2020b).

Personalised advertising is positively related to customers' brand identification because they feel more identified with the content, enhancing personal relevance and motivation to pay attention to the message (Tran, 2020a). Therefore, companies need to deliver tailored advertising on social media to develop unique experiences and foster brand identification (Tran, 2020a).

2.3.4. Brand Engagement

Brand engagement is the process that underlies the creation and maintenance of customer loyalty (Walrave et al., 2018). Brand engagement is associated with customers' favourable responses since when they feel engaged with a customised product or service, they will more likely perceive that it was designed especially for them, creating a unique experience (Tran, 2020b). Customer brand connection is developed when customers have experiences with the brand or product and feel that their psychological needs were fulfilled, therefore brand engagement drives brand connection because when people feel engaged, they tend to create an emotional connection (Tran, 2020b). Brand engagement is responsible for increasing brand loyalty which has a positive effect on sales growth, positive word-of-mouth, and profitability (Tran, 2020b).

2.4. Personalised Advertising on Facebook

Several studies examined the impact of personalised advertising in traditional media, yet little is known about personalised advertising on social media (Tran, 2017; Wirtz et al., 2017; Shanahan et al., 2019; Tran, 2020a). Personalised advertising on Facebook is "the process of advertising in which a retailer develops a customised ad of a product or service on Facebook based on prior customer activities on the Internet" (Tran, 2017, p. 231). For instance, if a customer searches for a specific product on a website, he/she may later receive a personalised ad on Facebook related to the company or product he/she searched for (Tran, 2020a). What distinguishes personalised ads from generic ads on Facebook? Personalised ads are developed based on customers' unique characteristics or past online behaviour, meanwhile, generic ads are designed to reach large numbers of people, not considering customers' unique characteristics (Tran, 2020a).

Tailored ads on this platform can be created using different user information such as location, gender, status, purchase patterns, past interaction on the Internet, and interests (Tran, 2017). This platform offers many targeting, placement, and formatting tools that allow marketers to use different setting options to develop campaigns that better fit their objectives and their target market (Van den Broeck et al., 2017; Semeradova & Weinlich, 2019).

Facebook is the most popular social media worldwide (B. Kim & D. Kim, 2020). This platform became the most successful social advertising platform by collecting long-term data on users' activities (Semeradova & Weinlich, 2019). Google and Facebook are known as the 'advertising duopoly' as they are responsible for the biggest percentage of ad spend and for almost the totality of ad growth (Geradin et al., 2021). The number of companies using Facebook to promote their products has increased exponentially over the last years and the growing competition forced companies to invest more effort into creating innovative ads and into finding new strategies to optimise their marketing costs (Semeradova & Weinlich, 2019).

Facebook enhanced its revenues after its partnership with IBM on May 6, 2015 (Tran, 2017; Tran, 2020b). The integration of IBM's cloud capacity with Facebook's targeting technology allowed the creation of better ads which took social commerce to the next level (Tran, 2017; Tran, 2020b). The merge of these capabilities enabled companies to reach their customers and deliver effective personalised ads (Tran, 2017; Tran, 2020b).

Companies are using this platform as a strategic marketing tool to publish ads as it is more effective and less expensive than other media (Tran, 2017). Moreover, firms want to advertise on the most popular platform since it enhances the probability to reach more people (Nuseir, 2020). The literature shows that customers only develop positive responses towards advertising on Facebook if they perceive it as being personalised (Shanahan et al., 2019). Personalised ads create positive brand associations and enhance the intent to buy the products advertised (Shanahan et al., 2019; Al Qudah et al., 2020; Tran, 2020a). Since these ads are more self-relevant, they tend to create unique user experiences that strengthen brand connections (Tran, 2020a). By interacting with their target market on Facebook, companies can achieve better brand awareness and higher levels of satisfaction which ultimately can produce customer loyalty (Shanahan et al., 2019).

Although personalised ads generally result in positive responses, there can be different types of reactions to this type of advertising (Tran, 2017; Shanahan et al., 2019). Shanahan et al. (2019) advocate that there are two different user responses to personalised ads on Facebook, some users perceive them as being more credible and develop a positive attitude, while others perceive them with scepticism and create a negative attitude. Therefore, firms need to understand how their customers respond to personalised ads on social media before embracing that strategy (Wirtz et al., 2017; Kim et al., 2019).

Tran (2017) distinguishes three segments of users that represent different responses to personalised ads on Facebook, these being ‘ad lovers’, ‘ad haters’, and ‘ad accommodators’ (Tran, 2017). ‘Ad lovers’ are those that reveal a high level of favouritism towards ads, greater ad credibility, and lower ad avoidance and scepticism (Tran, 2017). ‘Ad haters’ are those that demonstrate a high level of ad avoidance and scepticism, believing that ads are not useful or relevant (Tran, 2017). Finally, ‘ad accommodators’ is the segment located in the middle between ‘ad lovers’ and ‘ad haters’ with a moderate behaviour as they do not hate or love ads (Tran, 2017). The three segments report distinctive attitudes and behaviours (Tran, 2017). Regarding demographic factors, there is no significant age or income difference between them, however, there is a significant difference in gender and time spent on Facebook (Tran, 2017). ‘Ad haters’ are more frequently female and they usually spend less time on Facebook, whereas ‘ad lovers’ are more often male and they tend to spend more time on Facebook (Tran, 2017).

2.5. Personalised Advertising Effects

Many studies prove that personalised ads enhance the effectiveness of online advertising and offer benefits for both companies and customers (Aguirre et al., 2015; Tran, 2017; Shanahan et al., 2019; Acquisti et al., 2020; Tran, 2020b). They create a high level of consistency between customer needs and brand benefits, resulting in higher preference and interaction (Tran, 2020b). From the customer's point of view, personalised ads are more relevant, interesting, convenient, allow to distinguish ads from spam (Kim et al., 2019; Shanahan et al., 2019; Al Qudah et al., 2020; Tran, 2020b), and they are more useful since they recommend more relevant content and valuable information (Herder & Zhang, 2019).

Since customers perceive personalised advertising as being more self-relevant, it evokes central message processing which results in higher levels of attention and a greater time spent analysing the message, therefore tailored messages are more persuasive and better remembered (Walrave et al., 2018; Tran, 2020b). They allow users to focus their attention on products they are interested in, avoiding wasting their time evaluating a large variety of products (Tran, 2017; Tran, 2020a), hence reducing cognitive overload (Aguirre et al., 2015). Additionally, tailored ads can help customers to discover new products and services and obtain recommendations that they would not learn about otherwise (Kim et al., 2019; Ruckenstein & Granroth, 2020).

From the firm's point of view, personalised advertising is the most profitable method of advertising (Estrada-Jiménez et al., 2017). It improves ad credibility, reduces ad resistance, and strengthens brand awareness (Tran, 2017; Shanahan et al., 2019). With tailored ads, companies can better serve their target audience and enhance their satisfaction (Aguirre et al., 2015). Personalised ads allow companies to enhance cross-selling potentials through better recommender systems and gain greater profits from price discrimination (Schreiner & Hess, 2015).

Moreover, other positive effects reported are greater levels of brand recall, click-through rates, and purchase intentions (Boerman et al., 2017). Customers create positive attitudes towards personalised advertisements and feel unsatisfied when they receive ads that are not according to their needs and interests (Tran, 2017). Irrelevant or poorly designed ads may result in negative attitudes; thus, companies need to know very well their target audience to create content that will be perceived as relevant (Tran, 2020a).

Tailored ads allow companies to reinforce favourable relationships with their customers on a personal level which can lead to loyalty (Shanahan et al., 2019; Tran, 2020b). Through advertising, companies can communicate their unique values which can lead customers to develop a bond with the intangible brand qualities, resulting in the creation of a customer-brand relationship (Tran, 2020b). After the relationship is formed, the matching process can occur if the customer feels that there is a congruence between its self-concept and the company's competence to offer benefits that match that self-concept (Tran, 2020b). For example, if a brand of glasses promotes the value of confidence, a customer that embraces that characteristic in its self-concept may create a strong connection with that brand (Tran, 2020b).

2.6. Personalised Advertising Challenges

Although the literature shows positive effects of personalised ads, they can also result in negative consequences (Wirtz et al., 2017; Shanahan et al., 2019; Tran, 2020a; Tran, 2020b). The number of advertisements shown online increased, making attracting customers' attention more difficult to achieve than in traditional media (Bang & Lee, 2016). This results in lower levels of attention paid to online ads because people are becoming less responsive to ads over time as they are getting more accustomed to them (Bang & Lee, 2016). This can be explained by the fact that when users are exposed to traditional media ads (for instance on television) they are more relaxed and passive (Bang & Lee, 2016). However, when they are online, they tend to be task-oriented and task-irrelevant content such as ads are more likely to be avoided (Bang & Lee, 2016).

One of the biggest challenges that marketers face regarding personalised advertising is that ads may not always be perceived by customers as personalised (Shanahan et al., 2019; Tran, 2020a). Some researchers distinguish personalisation from perceived personalisation, claiming that they are different constructs (Tran, 2020a). While personalisation is defined as the activity whereby companies develop tailored content using exclusive customers data (Wirtz et al., 2017; Shanahan et al., 2019; Tran, 2020a), perceived personalisation is the way customers recognise the content as being congruent with their preferences, self-schema, search patterns, level of self-monitoring, and group membership (Tran, 2020b).

Another challenge of tailored advertising is the scepticism customers may feel regarding the content, which may lead to ad avoidance (Walrave et al., 2018). That can happen when customers are aware of the persuasive efforts, developing a defensive behaviour and lowering their attention

(Bang & Lee, 2016), hence reducing the expected effects (Walrave et al., 2018). Ad avoidance is one of the biggest challenges of personalised advertising (Tran, 2017; Van den Broeck et al., 2018). Personalised ads may result in ambiguous effects and lead to distinctive user responses (Semeradova & Weinlich, 2019). Some authors defend that creating personalised messages may not be enough to produce the best outcomes, a good level of involvement with the brand or product is very important (Semeradova & Weinlich, 2019).

Furthermore, the results of personalisation may be influenced by several factors such as product relevance, level of personalisation, ad placement, user characteristics (Semeradova & Weinlich, 2019), previous ad experiences, scepticism towards advertising, scepticism regarding social networks as an advertising medium (Bang & Lee, 2016), and trust in the platform itself (Wirtz et al., 2017; Kim et al., 2019; Tran, 2020a). If customers have a negative attitude towards Facebook, the ads shown on this platform will create a negative impact on brand perception (Wirtz et al., 2017; Tran, 2020). On the contrary, if customers trust Facebook, they will probably trust its features as well (Kim et al., 2019).

2.7. Personalised Advertising and Data Privacy

We live in a world where we are being constantly tracked both offline and online by surveillance cameras, GPS, face recognition technologies, and several apps that have access to personal information from our phones (Acquisti et al., 2020). Privacy hardly exists anymore as Zhang et al. (2014) state "we're entering an age where privacy is going away in a lot of ways" (p. 374). Akanbi (2021) and Acquisti et al. (2020) suggest that privacy is 'dead' and no longer achievable. Regarding this subject, Akanbi (2021) questions whether there can be more privacy in social networks since these are data-driven companies: "How do we reconcile asking for more privacy while using social media, platforms designed for public performance and well-known for data mining?" (Akanbi, 2021, p. 1500).

Social media creates business opportunities and allows companies to improve brand awareness, brand satisfaction, brand retention, and brand loyalty (Tran, 2020b). The extensive collection, use, and sharing of personal information originates revenues and opportunities for firms but at the same time generates privacy threats, creating a gap between privacy and profits (Akanbi, 2021).

Data privacy is the most frequent issue when discussing social media (Walrave et al., 2018; Tran, 2020b; Van den Broeck et al., 2020). Digital privacy is divided into three dimensions: privacy of a person, personal behaviour privacy, and information privacy (Cain & Imre, in press). Information privacy, also known as data privacy, defines how, when and if, individuals, groups, or organisations allow their information to be communicated to others (Barth & de Jong, 2017; Walrave et al., 2018; Cain & Imre, in press).

Privacy concerns refer to "an individual's attitudes of apprehension and unease towards the control of acquisition and use of information that is generated or obtained about them by third parties" (Pomfret et al., 2020, p. 523). This concern is more accentuated in social networks due to the different range of social interactions and information sharing activities compared to other platforms (B. Kim & D. Kim, 2020). Social media can collect large amounts of data to deliver personalised services without users' consent and share and/or sell data to government agencies, financial institutions, and marketing companies for commercial purposes (B. Kim & D. Kim, 2020).

The advertising targeting process has become a complex and sophisticated process (Estrada-Jiménez et al., 2017). People have limited capabilities online because they are unaware of the transactions that happen before they receive an ad, which reduces their capacity to limit advertisers' online tracking ability and to protect themselves (Estrada-Jiménez et al., 2017; Strycharz et al., 2019; Li & Nill, 2020). The lack of knowledge regarding how the information is gathered, for what purposes, and who uses it, intensifies the fear of privacy violations (Ruckenstein & Granroth, 2020). Many users still do not know that they share their web history, IP address, and communication history, among other data, when they use a web browser and they have a limited understanding of how tailored ads work (Kim et al., 2019). People may experience feelings of intrusiveness when they receive personalised ads as they feel that their data has been collected without their permission (Aguirre et al., 2015).

The tension between personalisation and data privacy has grown over the last years (Cloarec et al., 2022) and users are getting increasingly worried about the intrusiveness of online advertising (Estrada-Jiménez et al., 2017; Zimaitis et al., 2022). Many studies analyse the abuse of online advertising and claim that it is getting ubiquitous to the point of diminishing users' experience (Estrada-Jiménez et al., 2017). To enhance users' privacy and protect them from undesired ads, many ad-blocking mechanisms and opt-out functions were created (Estrada-Jiménez et al., 2017; Van den Broeck et al., 2017; Semeradova & Weinlich, 2019). However, in a world where private information is massively available for marketers and other parties, it is very difficult for users to

control their data and although there are many ad-blocking mechanisms and privacy settings, consumers can not eliminate completely the risk of being tracked (Li & Nill, 2020). Nowadays, people who want to completely protect their privacy have little choices other than disconnect from the Internet and not use mobile devices (Li & Nill, 2020).

The fear of privacy violation can have a negative influence on personalised advertising, resulting in negative responses and decreased ad effectiveness (Walrave et al., 2018). Privacy breaches lead to negative responses such as lower trust in the organisation and its products and services (Ayaburi & Treku, 2020). People that have high privacy concerns tend to be more sceptical about the use of their private information in social media advertising (Walrave et al., 2018) and tend to avoid personalised ads (Li & Nill, 2020). People usually respond negatively to the use of personal contact details such as phone number, address, and email, and sensitive data such as political orientation and income (Walrave et al., 2018, Herder & Zhang, 2019). Highly tailored ads can reduce the perceived benefits of personalisation because even if an advertisement is perfectly targeted, it can be ineffective if the customer is concerned about the way its data were collected and used (Kim et al., 2019).

The exponential growth of data privacy concerns over the last years led large companies such as Google to strengthen their privacy policies (Geradin et al., 2021). Google decided to eliminate third-party cookies by 2023 to improve the security of its services (Geradin et al., 2021). Cookies are one of the most popular online tracking mechanisms used in tailored advertising to allow web servers to identify and recognise users in future visits (Estrada-Jiménez et al., 2017). They are divided into first-party cookies which are stored directly by the website the user visits and third-party cookies which are set by a website that is not the one the user is visiting, allowing cross-site tracking (Geradin et al., 2021). Cookies significantly developed over the years creating several concerns as they not only identify users but store and share massive amounts of data (Estrada-Jiménez et al., 2017). This decision is expected to have a negative impact on online advertising since it will prevent companies from tracking users across websites (Geradin et al., 2021).

2.7.1. Facebook and Data Privacy

Facebook has been under great scrutiny regarding its advertising methods and covert data collection procedures (Aguirre et al., 2015). Data privacy violation on Facebook is associated with the dissemination of personal data to third party businesses and this subject has been under much

criticism (Wirtz et al., 2017). This platform explains how users' data may be exploited and presents its privacy policy in the Terms of Service (TOS) agreement (Herder & Zhang, 2019). This agreement offers great power to collect personal data (Cain & Imre, in press). Research shows that these documents are rarely read by users and they are frustrating since they are long and complex (Cain & Imre, in press). A study estimated that a user would need an average of 40 minutes a day to read all the privacy policies that could arise while surfing the Internet (Cain & Imre, in press).

Facebook was involved in many privacy controversies and debates (Choon, 2018). In 2010, it received a complaint from the Office of the Privacy Commissioner of Canada due to the abuse of the use of information and in 2017, the Spanish data regulator fined the social network for violating data protection laws (Choon, 2018). Moreover, people became concerned about their online privacy, especially after the Facebook-Cambridge Analytica scandal, where private information from more than 50 million people was used without their consent (B. Kim & D. Kim, 2020). After this data breach incident, a survey concluded that one in ten Facebook users in America have deleted their accounts due to the lack of trust in the platform (Ayaburi & Treku, 2020). This incident demonstrated Facebook's power to influence users' mood, attitude, and political orientation (Herder & Zhang, 2019). The Facebook-Cambridge Analytica event increased users' awareness about the safety of their personal information and reinforced the need for privacy (Cain & Imre, in press). Moreover, such events discourage people from providing personal information and negatively influence their intention to engage on social platforms (Ayaburi & Treku, 2020).

Unexpected data collection practices are one of the main reasons for data privacy concerns as users are not aware of how their data has been collected (Herder & Zhang, 2019). Moreover, the inappropriate use of sensitive information on personalised ads (e.g., health issues) is another trigger for privacy concerns (Herder & Zhang, 2019). While some consumers see benefits in personalised advertising, others find it invasive and 'creepy' (Zhang et al., 2014; Herder & Zhang, 2019; Li & Nill, 2020). Ads may be perceived as 'creepy' when users face discomfort about the possible dangers due to a lack of social norms (Herder & Zhang, 2019). Users feel nervous and scared when they talk to someone about a certain product and then receive a Facebook ad for that product, having never researched it (Herder & Zhang, 2019; Zhang et al., 2021).

Tailored ads sometimes trigger reactions of fear when reproducing users' past online behaviour which generates unpleasant feelings of being surveilled and followed (Ruckenstein & Granroth, 2020). Customers feel irritated and believe that their personal space has been invaded when they

are ‘pursued’ over the Internet and social media for something they have researched (Ruckenstein & Granroth, 2020).

Moreover, feelings of annoyance may arise when customers receive ads that are not relevant to them due to the use of an algorithm identity based only on sociodemographic characteristics such as age and gender, resulting in stereotypes such as targeting women over forty with wrinkle cream ads (Ruckenstein & Granroth, 2020). Customers demand tailored ads that reflect their personal needs and interests and make better real-time predictions that can anticipate their needs and desires (Ruckenstein & Granroth, 2020). When ads are perceived as relevant, people tend to feel less reluctant and worried about the use of their data (Ruckenstein & Granroth, 2020).

Although there are issues regarding Facebook’s data privacy, users continue to use this platform due to the ‘stickiness’ of social networks (Zhang et al., 2014). In the research made by Zhang et al. (2014) users claimed they felt ‘stuck’ on Facebook and found it difficult to break out of it, especially because it became part of their daily routine. This platform became an indispensable part for millions of people which explains why they do not delete their accounts despite the privacy concerns (Ayaburi & Treku, 2020). One of the main reasons for this is the important role social platforms play in people’s social lives (Hargittai & Marwick, 2016; Kokolakis, 2017).

Being on social media platforms responds to three people’s needs, the need for entertainment, the need for identity construction, and the need for social relationships (Cain & Imre, in press). The gratification of these needs tends to be more important than the risks of data disclosure (Kokolakis, 2017; Cain & Imre, in press). Consumers are worried about their privacy, yet they believe that the benefits they receive are greater than the risks they are exposed to (Yee et al., 2019). Nevertheless, some users reveal that they have already deleted their account, however many ended up re-activating it due to the nostalgia for the left virtual community, the lack of social connections, or to regain access to community members’ ideas and information (Maier et al., 2021).

Users are increasingly requiring ad transparency, the process of allowing people to know how their data is used in the advertising system (Estrada-Jiménez et al., 2017; Kim et al., 2019; Strycharz et al., 2019; Al Qudah et al., 2020). Ad transparency is important to empower customers, improve ad effectiveness, and reduce privacy concerns (Kim et al., 2019). Letting customers know how the ad was developed can increase the perceived ad transparency and product-customer fit, which can result in greater interest (Kim et al., 2019).

In response to customers' pressure, the number of firms employing ad transparency practices is growing (Kim et al., 2019). Moreover, the introduction of the General Data Protection Regulation (GDPR) in 2018 also enhanced consumers' perceived data security (Zimaitis et al., 2022). Facebook offers three types of explanations, general explanation ('About Facebook Ads'), ad settings, and advertising explanation 'Why am I seeing this ad?' that helps users to understand why a certain ad is shown on their profile (Herder & Zhang, 2019). Many websites also began to use explicit messages to inform users that a tracking software is being used (Kim et al., 2019), however, many firms still offer poor methods of ad transparency and resist including this information (Kim et al., 2019).

2.7.2. Consumers' Willingness to Pay for Privacy

Advertising pays for the 'free' content on the Internet (Herder & Zhang, 2019; Li & Nill, 2020; Geradin et al., 2021). It is unrealistic to expect a ban on personal data collection and at the same time the free use of social media platforms and their services (Geradin et al., 2021). Advertising revenues allow the free access to online services and consumers 'pay' for it often without their knowledge by allowing the collection and use of their private data (Geradin et al., 2021), as stated in Forbes (2012), "If you're not paying for it, you become the product". Therefore, the existing 'market' for data privacy is to trade personal data in exchange for free content (Geradin et al., 2021).

Since users demand more privacy, would they be willing to pay for it? Consumers' willingness to pay for privacy (WTP) is an approach explaining that while there are consumers who prefer to use a social platform for free in exchange for providing personal information, there are others who prefer to pay to improve their privacy (Schreiner & Hess, 2015). There is still relatively little literature on this subject (Pomfret et al., 2020) and the existing research indicates contradicting evidence on consumers' WTP as some studies reveal that consumers are willing to pay to enhance their online privacy, while others support that people are not interested in paying for privacy (Schreiner & Hess, 2015).

Some investigations advocate that consumers tend to exhibit a strong dispreference for paying for their privacy (Schreiner & Hess, 2015; Pomfret et al., 2020). People prefer to pay less for a product and give personal details than to pay a higher price and keep their data private (Schreiner & Hess, 2015). Privacy is often seen as a costly luxury that few people can afford (Pomfret et al., 2020).

Some people are not willing to pay to protect their privacy because they do not have the necessary monetary resources whilst others show no interest in paying for privacy or remove advertising from social media because they think it is useful and they gain benefits such as relevant information and leisure (Pomfret et al., 2020). On the other hand, other studies suggest that users are willing to pay to limit the collection of their data (Kokolakis, 2017; Li & Nill, 2020). A study on e-commerce proved that consumers are willing to pay a higher price to buy from retailers that protect their privacy (Schreiner & Hess, 2015).

Schreiner and Hess (2015) suggest that users differ in their privacy needs and propose a privacy-freemium model for Facebook. This revenue model would offer a free account in which all users would have access to a basic version and where revenues would be generated through advertising and a premium version with an upgraded service with privacy control features for a monthly fee (Schreiner & Hess, 2015). This study concluded that consumers would be willing to pay for privacy if they perceived that the premium version offers added value and prevents the exploitation of personal data (Schreiner & Hess, 2015).

Moreover, some experiments examined consumers' willingness to sell their data and they concluded that although some consumers have no interest in selling their data at any price, many show no concern regarding the privacy of their data and they would be willing to sell their personal information (Cloos et al., 2019; Li & Nill, 2020). A study aiming to understand the monetary value users give to their personal information showed that the browsing history was valued at 7€ on average, and personal information such as age, economic conditions, and address was valued at approximately 25€ (Carrascal et al., 2013). In addition, this study demonstrated that people tend to give a higher value to data related to social media (12€) than to data concerning online activities such as searching (2€) and shopping (5€) (Carrascal et al., 2013).

The experiment carried out by Cloos et al. (2019) supports that consumers assign different valuations depending on the type of personal information. In this experiment, people gave higher valuation to delicate information that could be potentially embarrassing such as weight since that information could cause shameful exposure, hence it was more important to keep that in private (Cloos et al., 2019).

Furthermore, the study conducted by Li and Nill (2020) proposes that people that have more knowledge regarding the depth of the data collection process and the techniques used in personalised advertising are willing to pay more to keep their data private and are less likely to sell

their data than less knowledgeable people. On the contrary, people that are less informed regarding the depth of personalised advertising are willing to pay less to protect their privacy but contrastingly they are willing to sell their data for a higher price, which does not mean that they have higher privacy concerns but that often they have irrational expectations about the value of their data (Li & Nill, 2020). The conclusion of this study was that asking consumers to pay a fee to enhance their privacy would only work with well-informed consumers that better understand the value of their personal data (Li & Nill, 2020).

2.7.3. Privacy Paradox

People always seek a balance between openness and privacy and this is evident in social media when people balance between posting or protecting their personal information (Walrave et al., 2018). The 'privacy paradox', also known as the 'information privacy paradox', explains that there is a disconnect between users' privacy intentions and their behaviours, as they support the need for privacy but still engage in behaviours that endanger their privacy such as sharing their data on social media (Kokolakis, 2017). The term 'paradox' is defined as a "seemingly absurd or self-contradicting statement or proposition that, when investigated or explained, may prove to be well-founded or true" (Martin, 2020, p. 66).

The privacy paradox is also used to describe the tension between privacy and personalisation, named the 'personalisation-privacy paradox' (Kokolakis, 2017) as users constantly deal with the trade-off between the benefits of personalisation and its potential threats (Herder & Zhang, 2019). The personalisation-privacy trade-off is described as a loss-benefit ratio in which customers share personal information (cost) and receive benefits such as personalised services (Cloarec et al., 2022).

The privacy paradox is a complex phenomenon that has not been completely clarified in the literature (Kokolakis, 2017). Research on the privacy paradox has produced dichotomy findings since some studies support the privacy paradox, whilst others question its arguments or even its existence (Kokolakis, 2017; Cloos et al., 2019; Acquisti et al., 2020; Pomfret et al., 2020; Akanbi, 2021).

2.7.3.1. Privacy Paradox - Supporting Literature

The privacy paradox prevails as a clarification for consumer behaviour in research and it can be analysed through two different approaches, the 'no-privacy-exists argument' and the 'privacy-can-be-traded argument' (Martin, 2020).

The 'no-privacy-exists argument' claims that users have no privacy expectations online (Martin, 2020). Pure privacy is unreachable and going online means that we lose our privacy (Martin, 2020). The information disclosing behaviour online is equivalent to privacy-compromising behaviour which demonstrates that individuals relinquish privacy (Martin, 2020). In this approach, the storage, use, or sale of personal information by third parties is not an issue since individuals do not hold privacy expectations when they share personal information (Martin, 2020). In this context, companies can assume that consumers do not have legitimate privacy interests, therefore they have little or no responsibility to respect privacy and they have permission to manage the information they collect according to their needs (Martin, 2020).

On the other hand, the argument supporting that privacy can be traded states that users frequently claim to be worried about their privacy being infringed, however, they are still willing to exchange personal details to obtain benefits (Barth & de Jong, 2017; Kokolakis, 2017; B. Kim & D. Kim, 2020; Martin, 2020; Van den Broeck et al., 2020; Jang & Sung, 2021; Liyanaarachchi, 2021). Individuals experience a psychological dilemma when facing the uncertainty of disclosing personal information to gain online services, which means that they are willing to sacrifice privacy for utilitarian and hedonic benefits, suggesting the existence of a 'malleability' of privacy intentions (Van den Broeck et al., 2020). The privacy paradox reveals the existence of a misalignment between users' desire for privacy and their privacy-threatening behaviours as they claim to be worried about privacy, yet they do little to protect their data (Hargittai & Marwick, 2016; Barth & de Jong, 2017; Kokolakis, 2017; Yee et al., 2019; Akanbi, 2021).

Social Contract Theory explains that users and firms that gather personal data create a social contract formed by expectations of social norms that govern the relationship between the two parties (Van den Broeck et al., 2020). Users obtain free services from Facebook and Facebook collects users' data and their tolerance to receiving ads (Van den Broeck et al., 2020). The social contract may be at risk when users perceive that their personal information was not used fairly or when the benefits were not perceived to be following the inconvenience of disclosing personal

information, resulting in privacy concerns, lower trust, and lower behavioural intentions (Van den Broeck et al., 2020).

Furthermore, Social Theory increases the understanding of the privacy paradox (Kokolakis, 2017). It supports that although people are concerned about their privacy, they disclose personal information to gain social benefits (Kokolakis, 2017). Social networks became embedded in consumers' lives and in order to preserve their social lives and their feeling of belonging to a community, they share information despite privacy concerns (Kokolakis, 2017). The need for social connections and the need for belonging to a community often lead users to overvalue the gains and undervalue the calculated risks of data share (Kokolakis, 2017). Regarding young people, they tend to share personal information to respond to their need for popularity and to build their social connections (Kokolakis, 2017). Social platforms are an important way to gain social capital and some people do not want to lose the benefits of self-disclosing or the psychological benefits of sharing their thoughts and feelings, frequent among adolescents (Kokolakis, 2017; Acquisti et al., 2020).

Structuration Theory is an alternative sociological model which also helps to understand the phenomenon of the privacy paradox (Kokolakis, 2017). This theory explains that social life is more than people's actions since people produce, reproduce, and change the social structure and at the same time their actions are also constrained and affected by it (Barth & de Jong, 2017; Kokolakis, 2017). Privacy decision making is part of the structuration process in which users do not make privacy decisions as completely free agents because they are influenced by several contextual factors and external structures (e.g., social norms and trust in social platforms) when facing the privacy trade-offs (Barth & de Jong, 2017; Kokolakis, 2017).

Moreover, consumers' disclosing behaviours on social media can be explained in several ways:

- Lack of control regarding information sharing or poor danger assessment, frequent among young adults (Hargittai & Marwick, 2016; Choon, 2018).
- Consumers' unawareness of the value of the data they share, leading to an inappropriate risk evaluation (Barth & de Jong, 2017).
- People's unrealistic perception of privacy protection since they consider they have little power to protect it (Hargittai & Marwick, 2016; Barth & de Jong, 2017; Akanbi, 2021). The perception of the weak ability to change the situation and the inevitability of privacy violations lead users to reveal apathy and resignation (Hargittai & Marwick, 2016).

- Users' underestimation of the privacy invasion risks, believing that adverse events will more probably happen to others, resulting in a higher risk exposure (Barth & de Jong, 2017; Kokolakis, 2017).
- Lack of information on privacy protection (Hargittai & Marwick, 2016; Barth & de Jong, 2017). If people had more knowledge about security practices, they would develop a greater awareness towards privacy (Choon, 2018).

Different approaches help to clarify the privacy paradox phenomenon by examining the nature of the decision-making process (Barth & de Jong, 2017). The decision-making process can be divided into three categories: the rational perspective, the biased risk assessment perspective, and the negligible or no risk evaluation perspective (Barth & de Jong, 2017).

The rational perspective of risks and benefits calculation explains that users consciously evaluate the risks of data disclosure (such as data appropriation by third parties) and the perceived benefits (such as a personalised service) (Barth & de Jong, 2017). This rational evaluation aims to maximise benefits and minimise costs (Barth & de Jong, 2017). The Privacy Calculus Model suggests that people compare potential benefits and negative consequences before disclosing personal information and if the perceived benefits outweigh the risks, then users are willing to disclose personal data to obtain advantages such as personalisation, entertainment, self-expression, convenience, and economic benefits (Yee et al., 2019; Barth & de Jong, 2017).

The second approach is the biased risk assessment which supports that decision-making is an irrational process affected by different unconscious biases such as heuristic thinking, immediate gratification, time constraints, optimistic biases, and habit (Barth & de Jong, 2017). Very often people are unwilling to analyse all the information to make rational decisions, relying on heuristics to come to a fast decision based on their impressions or relying on immediate gratification in which present benefits are more valued than possible future risks (Barth & de Jong, 2017; Kokolakis, 2017). The benefits of accepting privacy-challenging situations are usually immediate and tangible, whereas consequences are delayed (Acquisti et al., 2020). These biases influence the risk assessment, resulting in a distorted risk-benefit calculation (Barth & de Jong, 2017).

The third approach refers to the negligible or no risk evaluation decision process (Barth & de Jong, 2017). In this context, an incorrect privacy evaluation or lack of knowledge may occur and lead to negligence or undervaluation of the risks and to overvaluation of the benefits associated with information disclosure (Barth & de Jong, 2017).

Finally, the privacy paradox suggests that there are different types of disclosure behaviour (Hargittai & Marwick, 2016; Barth & de Jong, 2017). 'Fundamentalists' are individuals highly worried about their data protection and do not want their data to be used by third parties (Hargittai & Marwick, 2016; Barth & de Jong, 2017). 'Pragmatists' are those that are cautious about their data sharing but at the same time are willing to disclose personal information if they perceive benefits (Hargittai & Marwick, 2016; Barth & de Jong, 2017). Finally, the 'unconcerned' share their private information to receive benefits and have no considerable privacy concerns (Hargittai & Marwick, 2016: Barth & de Jong, 2017).

2.7.3.2. Privacy Paradox - Questioning Literature

Regarding the literature questioning the privacy paradox, many scholars believe that consumer behaviour is not a good indicator of privacy expectations (Martin, 2020). Akanbi (2021) suggests that privacy attitudes cannot always predict privacy behaviours since privacy attitudes are driven by values and privacy behaviours are driven by a contextual risk evaluation and although there are situations in which behaviours are not according to the intention to obtain privacy, that does not indicate that behaviours never correspond to attitudes or that the desire to protect privacy should not be taken seriously (Acquisti et al., 2020; Martin, 2020). People are not always able to match their preferences and desires with their behaviours but that does not mean they are not worried about their privacy (Acquisti et al., 2020; Martin, 2020). People may disclose personal information however, they are significantly concerned about their privacy and they are against the uncontrolled exploitation of their personal information (Kokolakis, 2017).

Other scholars advocate that no paradox exists (Martin, 2020). Consumers tend to be consistent when they express their privacy concerns and engage in protective behaviours (Martin, 2020). In the online environment, people expect that their privacy is respected regarding who has access to and how their information is used (Martin, 2020). The perspective that supports that privacy is a core value explains that individuals seek to obtain privacy in the online community because it is an important value for the individual's autonomy, development, and relationships (Martin, 2020). In this context, if privacy is seen as a core value, then companies have an obligation to respect it when it comes to collecting and use of personal information (Martin, 2020).

Acquisti et al. (2020) claim that although there are people that are not interested in protecting their data and exchange their personal information for relatively small benefits, there is evidence of

privacy-protective behaviours. In our offline life, we continually protect our privacy and this also applies to the online environment where individuals are worried about their data privacy and take protective actions in line with their interests (Acquisti et al., 2020). Privacy is seen as a "dialectic and dynamic process of boundary regulation" by which users balance the openness and the closing to others to handle their interpersonal boundaries and reach the desired level of privacy (Acquisti et al., 2020, p. 740). Some protective behaviours that users engage in are changing passwords, clearing cookies, being selective with the personal information they share, avoiding using their names, limiting access to their profiles (Acquisti et al., 2020), providing false information, changing privacy settings, and deleting tags and photos (Kokolakis, 2017).

Chapter 3 - Research Hypotheses

The research hypotheses correspond to provisional statements regarding the topic under study, being predictable assumptions to be verified in the research (Creswell, 2014). The conduction of this study will be guided by 7 research questions based on the literature analysed in chapter 2 which will directly influence the research design and all the steps regarding its execution.

- H1: Consumers perceive personalised advertising on Facebook as relevant and useful.

Many studies show that consumers tend to exhibit a preference for personalised ads since they offer interesting and relevant content and provide useful suggestions for new products and services (Kim et al., 2019; Al Qudah et al., 2020; Tran, 2020b). However, some authors suggest that personalised ads result in unclear outcomes and lead to dissimilar user responses (Semeradova & Weinlich, 2019). Therefore, since there are ambiguous conclusions in the literature and since the future of advertising is expected to lie in more tailored advertising (Lee & Cho, 2020), it is relevant to understand how the sample under study perceives this type of advertising.

- H2: Consumers prefer to see personalised advertising over non-personalised advertising on Facebook.

The literature suggests that non-personalised advertising is a strategy that is no longer effective meanwhile personalised advertising became the most effective and profitable form of promotion (Aguirre et al., 2015; Kim et al., 2019; Al Qudahet al., 2020). Moreover, consumers create positive attitudes towards tailored ads since they are according to their needs and interests and feel unsatisfied when they receive ads that do not match their preferences (Tran, 2017; Ruckenstein & Granroth, 2020), hence it is essential to clarify if the sample under examination manifests preference for personalised ads over non-personalised ads.

- H3: Personalised advertising on Facebook produces data privacy concerns.

One of the main problems that arise when discussing social media is data privacy concerns (Walrave et al., 2018; Tran, 2020b; Van den Broeck et al., 2020). Consumers are worried that their personal information will be used for commercial purposes (B. Kim & D. Kim, 2020) and feel unsafe and reluctant regarding the protection of their data on social media (Estrada-Jiménez et al.,

2017). It appears that the intrusiveness of online advertising has grown exponentially (Estrada-Jiménez et al., 2017), making this an important topic to be studied.

- H4: Consumers do not hold protective behaviours regarding the protection of their data on Facebook.

Privacy is a meaningful concern for individuals in the digital era, however, the privacy paradox advocates that there is a discrepancy between users' desire for privacy and their privacy-threatening behaviours (Barth & de Jong, 2017; Akanbi, 2021). In opposition, the literature that questions the privacy paradox states that consumers are worried about their privacy and use protection strategies accordingly to their privacy intentions (Kokolakis, 2017; Acquisti et al., 2020). Since there are no conclusive statements regarding consumers' behaviour, it is important to comprehend how the sample under analysis behaves towards the protection of its data on Facebook.

- H5: Consumers are not willing to pay to enhance their data privacy on Facebook.

Research shows a great disinterest of consumers in paying for privacy, although there are studies proposing that some individuals are willing to pay to limit the collection of personal data on social media (Schreiner & Hess, 2015; Pomfret et al., 2020). Consumers want more privacy, yet they are not willing to pay to increase their privacy on social media or to reduce the number of personalised advertisements (Pomfret et al., 2020). That being so, this study aims to understand if the sample under study is willing to pay to enhance data privacy on Facebook.

- H6: Consumers are willing to disclose private information on Facebook to obtain benefits.

The privacy paradox explains that people are willing to disclose personal information on social media in exchange for benefits, which means that they are not worried about losing a certain degree of privacy if they are going to be rewarded for that (Barth & de Jong, 2017; Kokolakis, 2017; B. Kim & D. Kim, 2020; Martin, 2020; Van den Broeck et al., 2020; Jang & Sung, 2021; Liyanaarachchi, 2021). Therefore, it is necessary to clarify if the sample is willing to disclose personal information to gain benefits on Facebook.

- H7: Women tend to perceive that personalised advertising on Facebook offers less relevant information than men.

The literature shows that regarding demographic factors there is no significant age or income difference between people who have a positive or negative response to personalised advertising on Facebook (Tran, 2017). However, a significant difference between gender was found, as women tend to have more negative responses and attitudes towards personalised ads than men (Tran, 2017). Therefore, this study aims to understand if there is a relationship between gender and perception of personalised advertising's relevance.

Chapter 4 - Methodological Approach

4.1. Research Methodology

This chapter will address the research methodology used, explaining the procedures employed to achieve the objectives of this dissertation. The methodology determines the methods that will be used to study a certain phenomenon and obtain the answers to the research questions (Fortin, 1999).

Firstly, to deepen the knowledge of the studied theme, potentially relevant articles were searched and selected through credible databases such as Scopus and Web of Science. Once the articles were selected, the abstracts were read and those whose content was not related to the topic under study were eliminated. After reaching a more relevant group of articles, these were read and analysed.

Quantitative research is based on the theoretical perspective of positivism, and it is characterised as a systematic process of collecting observable and quantifiable data which provides objective knowledge regarding the variables studied (Fortin, 1999). This method allows for testing objective theories by analysing the relationship between the variables (Creswell, 2014). On the contrary, qualitative research is based on the naturalistic perspective that focuses on demonstrating the relationship between the concepts, explanations, descriptions, and meanings given by the participants and the researcher about a phenomenon (Fortin, 1999). Mixed-methods research is an approach that associates both qualitative and quantitative approaches to maximise the strength of the methods combined which will provide a more complete understanding of the research problem than a single approach (Creswell, 2014).

In this dissertation, it is aimed to understand the gap between personalised advertising and data privacy concerns. Therefore, the present study will use a mixed-methods approach through a survey by questionnaire which will enable the generalisation of the conclusions obtained and at the same time understand in more detail the subject under study. As Creswell (2014) stated “a researcher may want to both generalise the findings to a population as well as develop a detailed view of the meaning of a phenomenon or concept for individuals”.

4.2. Population and Sample

After defining the research methodology to be used, it is necessary to characterise the population by establishing selection criteria for the study (Fortin, 1999). Malhotra (2010) defines target population as "the collection of elements or objects that possess the information sought by the researcher and about which inferences are to be made" (p. 340). In the present research, the target population are individuals who have a Facebook account, regardless of age, gender, nationality, ethnicity, or other social labels. According to Statista (2022), there were approximately 7.92 million Facebook users in Portugal as of July 2021 and according to the National Institute of Statistics in 2021 lived in Portugal 10 344 802 individuals (INE, 2021). The sample population which responded to the present survey involves people who live in Portugal for more than 6 months and have a Facebook account.

In the context of this dissertation, the sampling technique used was a non-probabilistic self-selection sampling process, in which the probability that a certain element belongs to the sample is not equal to that of the other elements (Maroco, 2007). This sampling technique was chosen for its ease of access since we live in pandemic times and due to its convenience, as it is less expensive and time-consuming.

4.3. Data Collection Method - Survey by Questionnaire

4.3.1. Questionnaire Construction

A questionnaire is "a structured technique for data collection that consists of a series of questions, written or verbal, that a responder answers" which is particularly useful to collect quantitative primary data that is reliable and provided by motivated respondents (Malhotra, 2010, p. 303).

In this dissertation, the questionnaire was selected as a means to survey the sample. The questionnaire was constructed in Portuguese so that it could be answered by the sample under study. The first part of the questionnaire consists of a brief presentation of the work, where the subject to be studied is presented and where the confidentiality of the results obtained is guaranteed. The first part also provides a brief definition of the constructs of personalised advertising and non-personalised advertising. The second part consists of questions arising from the study metrics and in the third part, participants are invited to answer some sociodemographic

questions to characterise the sample. Respondents were also asked about the frequency with which they access Facebook.

Due to the current pandemic situation and to obtain the largest number of responses possible, the questionnaire was conducted online. The questionnaire was created in the Google Forms platform as it allows collecting, editing, and storing data effectively and simply and has the advantage of being easily used by the researcher and the respondents. The questions were designed from the literature reviewed, and the language used was simple and objective. Then, the link was shared in a post and via private message on social media to all respondents.

4.3.2. Questionnaire Structure

The survey is divided into seven parts and has a total of 38 questions. The structure of the questionnaire is composed of 36 closed questions and 2 open-ended questions. In Table 1 it is possible to see the constructs, their description, the authors, and the scales used.

Table 1 - Scales used for the questionnaire

Construct	Items	Author and year	Scale
Relevance of personalised advertising on Facebook	Personalised advertising usually matches my interests.	(Tran, 2017	5-point Likert scale
	Personalised advertising offers relevant information.	(Tran, 2017)	5-point Likert scale
	Personalised advertising allows me to waste less time on irrelevant information.	(Tran, 2017)	5-point Likert scale
	Personalised advertising allows me to learn about new products.	(Ruckenstein & Granroth, 2020)	5-point Likert scale
	I have already purchased products suggested by personalised advertising.	(Tran, 2020a)	5-point Likert scale

Construct	Items	Author and year	Scale
	Personalised advertising allows me to connect with the brands I like.	(Tran, 2020a)	5-point Likert scale
	Personalised advertising catches my attention.	(Tran, 2020a)	5-point Likert scale
Personalised vs. non-personalised advertising on Facebook	I prefer to see personalised advertising over non-personalised advertising.	(Ruckenstein & Granroth, 2020)	5-point Likert scale
	Personalised advertising catches my attention more than non-personalised advertising.	(Tran, 2017)	5-point Likert scale
	I usually click more on personalised advertising than on non-personalised advertising.	(Boerman et al., 2017)	5-point Likert scale
	I identify more with personalised advertising than with non-personalised advertising.	(Tran, 2017)	5-point Likert scale
	I find personalised advertising more relevant than non-personalised advertising.	(Tran, 2017)	5-point Likert scale
Personalised advertising impact on data privacy	I feel that my privacy is at risk when I receive personalised advertising.	(Aguirre et al., 2015)	5-point Likert scale
	I do not feel safe when I receive personalised advertising.	(B. Kim & D. Kim, 2020)	5-point Likert scale
	I feel that my data were used without my permission when I receive personalised advertising.	(Aguirre et al., 2015)	5-point Likert scale
	I am concerned that my data are used for	(B. Kim & D. Kim,	5-point Likert scale

Construct	Items	Author and year	Scale
	advertising purposes.	2020)	
	I consider personalised advertising untrustworthy.	(B. Kim & D. Kim, 2020)	5-point Likert scale
	I consider that sometimes personalised advertising is creepy.	(Herder & Zhang, 2019)	5-point Likert scale
	I have already received personalised advertising of a product that I only spoke about.	(Herder & Zhang, 2019)	'Yes'/'No'
	Would you prefer to continue to see personalised advertising or would you be willing to pay a monthly fee to Facebook for the privacy of your data?	(Herder & Zhang, 2019)	'Continue to see personalised advertising'/'Pay a monthly fee'
Data protection behaviour on Facebook	I have never found it necessary to take measures to protect my data.	(Hargittai & Marwick, 2016)	5-point Likert scale
	I have never changed the privacy settings on my profile.	(Hargittai & Marwick, 2016)	5-point Likert scale
	I do not know how to protect my data.	(Barth & de Jong, 2017)	5-point Likert scale
	I believe users have little power to protect their data.	(Barth & de Jong, 2017)	5-point Likert scale
	I share personal content/information without worrying about privacy.	(Akanbi, 2021)	5-point Likert scale
	I have already deleted my Facebook account for data security reasons.	(Maier et al., 2021)	'Yes'/'No'

Construct	Items	Author and year	Scale
	After deleting my account, I went back to have an account again.	(Maier et al., 2021)	'Yes'/'No'
	Why did you get the account again?	(Maier et al., 2021)	Open-ended question
Privacy paradox	I am willing to provide personal data only if I obtain benefits.	(Barth & de Jong, 2017)	5-point Likert scale
	I am willing to provide personal data to obtain economic benefits (e.g., free services, discounts).	(Barth & de Jong, 2017)	5-point Likert scale
	I am willing to provide my data to obtain entertainment.	(B. Kim & D. Kim, 2020)	5-point Likert scale
	I am willing to provide my data to obtain personalised advertising.	(Barth & de Jong, 2017)	5-point Likert scale
	Before providing my data, I analyse the benefits and the risks.	(Barth & de Jong, 2017)	5-point Likert scale

To ensure that all participants are aware of what personalised advertising is, the following definitions were presented before the questionnaire starts.

- **Personalised Advertising on Facebook** - Advertising in which personal information (sociodemographic data, browsing history, among others) is used to create ads according to users' needs, interests, and tastes (Tran, 2020a).
  Example: I searched for a pair of glasses on a website and then received an advertisement on Facebook for the glasses I saw (Tran, 2020a).

- **Non-Personalised Advertising on Facebook** - Advertising that is not based on users' specific characteristics or previous online behaviour (Tran, 2020a).

Next, the survey presents two questions that restrict the questionnaire to the sample that is intended to be examined. Therefore, respondents were asked if they have a Facebook account and if they have lived in Portugal for more than 6 months. In order to proceed and answer the questionnaire respondents must answer 'yes' to both questions and if the answer to these questions is 'no', then the survey is ended.

The questionnaire includes the following sections: relevance of personalised advertising on Facebook, personalised vs. non-personalised advertising on Facebook, personalised advertising impact on data privacy, data protection behaviour on Facebook, and privacy paradox. The last section concerns sociodemographic multiple-choice questions including age, gender, academic background, and monthly income.

In the first section ('relevance of personalised advertising on Facebook') it is aimed to analyse consumers' perception of personalised advertising relevance by six questions presented in the form of statements measured by a 5-point Likert scale ranging from 1 ('strongly disagree') to 5 ('strongly agree').

The second section is composed of five questions using a 5-point Likert scale to understand if the sample under study prefers to see tailored advertising over non-tailored advertising and if there are benefits of one compared to the other.

In the third section, it is intended to verify if personalised advertising generates data privacy concerns by presenting statements such as 'I feel that my data were used without my permission when I receive personalised advertising.' The question 'I have already received personalised advertising of a product that I only spoke about' is also presented and respondents are invited to answer 'yes' or 'no'. Moreover, in this section respondents are given the choice between continuing to see personalised advertising and paying a monthly fee to Facebook to enhance the privacy of their data.

Furthermore, the section 'data protection behaviour on Facebook' has the purpose of understanding how users behave regarding the protection of their personal information on Facebook. In this section, the questions 'I have already deleted my Facebook account for data security reasons' and 'after deleting my account, I went back to have an account again' are presented as multiple-choice questions of 'yes' or 'no'. Next, an open-ended question was asked to understand why consumers returned to Facebook.

Finally, the fifth section serves to assess the existence of the privacy paradox and the sixth section is formed of an open-ended question which intends to understand in which situation or situations personalised advertising threatens consumers' privacy.

4.4. Pre-Test

A pre-test was implemented as a provisional form in Google Forms to assess the appropriateness and quality of the items as well as to understand respondents' understanding of the questions. With the application of the pre-test, it was possible to analyse different aspects of the questionnaire design. A total of 20 answers were collected and the respondents stated that they easily understood all the questions and that they found the questionnaire interesting and not too long.

The pre-test was also useful to assess the scale's internal consistency and reliability. Cronbach's alpha is a stable measure of reliability designed to measure the internal consistency and analyse if all the items evaluate the same dimension or theoretical construct (George & Mallery, 2019). Ranging between 0 and 1, Cronbach's alpha index estimates how evenly items contribute to the unweighted sum of the instrument (George & Mallery, 2019). Thus, the higher the covariances, the greater the homogeneity of the items and the greater the consistency with which they measure the same dimension or construct (Maroco & Garcia-Marques, 2006). An instrument is classified as having appropriate reliability when Cronbach's alpha is at least 0.70 (Maroco & Garcia-Marques, 2006). However, in some social science research settings, an α of 0.60 is considered acceptable (Maroco & Garcia-Marques, 2006).

After assessing the reliability of all constructs, it was concluded that the constructs 'relevance of personalised advertising on Facebook', 'personalised vs. non-personalised advertising on Facebook', and 'personalised advertising impact on data privacy' have a good internal consistency since their α is greater than 0.70, as can be seen in Table 2. However, the constructs 'data protection behaviour on Facebook' and 'privacy paradox' present low reliability since their Cronbach's alpha is lower than 0.70.

Table 2 - Cronbach's alpha for the pre-test before the changes made

Construct	***Cronbach's alpha***	***Number of items***
Relevance of personalised advertising on Facebook	0.752	7
Personalised vs. non-personalised advertising on Facebook	0.882	5
Personalised advertising impact on data privacy	0.884	6
Data protection behaviour on Facebook	**0.385**	5
Privacy paradox	**0.665**	5

The construct 'data protection behaviour on Facebook' has inappropriate reliability and to increase the value of the alpha, the item 'I do not know how to protect my data' was removed, resulting in an α of 0.522. The value remained low as it is below 0.70. Next, the item 'I believe users have little power to protect their data' was also removed and the value of the alpha increased to 0.659 and although it represents a reduced level of reliability it can be considered acceptable, requiring some attention going forward in the investigation (Maroco & Garcia-Marques, 2006).

Next, to increase the internal consistency of the construct 'privacy paradox', the item 'before providing my data, I analyse the benefits and the risks' was removed. After removing the item, the internal consistency improved and the α became 0.829.

The Cronbach's alpha reliability analysis after the applied changes can be seen in Table 3 and the questionnaire with the changes made after the pre-test can be consulted in the Appendix (Appendix A).

Table 3 – Cronbach's alpha for the pre-test after the changes made

Construct	***Cronbach's alpha***	***Number of items***
Relevance of personalised advertising on Facebook	0.752	7

Construct	*Cronbach's alpha*	*Number of items*
Personalised vs. non-personalised advertising on Facebook	0.882	5
Personalised advertising impact on data privacy	0.884	6
Data protection behaviour on Facebook	0.659	3
Privacy paradox	0.829	4

4.5. Triangulation

In social research the concept of 'triangulation' is used to describe the observation of a research problem through at least two different points (Flick et al., 2004). Triangulation has been used as a validation of procedures and results, especially in qualitative methods (Flick et al., 2004). Four different forms of triangulation have been suggested, which are the follows (Flick et al., 2004).

- Triangulation of data: Collect data from different people, at different times, from different sources (interview/survey evidence, observed behaviour, publications in the media, etc.), or from different places (Flick et al., 2004).
- Investigator triangulation: Use different interviewers to reduce subjective influences (Flick et al., 2004).
- Triangulation of theories: Analyse data using multiple perspectives and hypotheses (Flick et al., 2004).
- Methodological triangulation: Use different methods to maximise the validity of field efforts (Flick et al., 2004; Oleinik, 2011).

In this investigation, the reliability and validity of the results obtained are strengthened by the methodological triangulation, more specifically by the within-method triangulation which uses multiple techniques within a certain method (Flick et al., 2004; Oleinik, 2011). The combination of the quantitative data and the qualitative data collected through the questionnaire will allow to obtain a more rounded picture of the subject under analysis and compare the results from the different methods to achieve more valuable results.

Chapter 5 – Results

This chapter will present the results obtained through the research methodology. The quantitative data collected through the questionnaire was saved in an Excel file and then inserted into the statistical software IBM SPSS (Statistical Package for the Social Sciences) version 28. The data transformation and processing were conducted using this software since it is suitable for quantitative information. Firstly, the sample size and characterisation were conducted and then quantitative results were presented through descriptive statistics, reliability analysis, spearman's rho correlations, and chi-square tests.

To analyse the qualitative data obtained through the questionnaire it was used the Software NVivo version 12 since the program is appropriate for qualitative data examination. The results obtained from the thematic analysis, frequency query, and word cloud will also be presented in this chapter.

5.1. Quantitative Results

5.1.1. Sample Size and Characterisation

This chapter presents the results concerning the sociodemographic profile of the sample. In the Appendix (Appendix B) it is possible to see the academic qualifications, the monthly incomes, as well as the frequency of Facebook use of the total sample. Data were collected from March 20th to April 20th, resulting in a total of 607 responses of which 583 were considered valid since 24 responses did not meet the requirements of living in Portugal for more than 6 months and having a Facebook account.

Out of the 583 responses, 441 (75.6%) appertain to be individuals of the female sex, 141 individuals of the male sex (24.2%), and 1 belonging to another gender (0.2%).

Table 4 - Gender of the total sample

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	441	75.6	75.6	75.6
	Male	141	24.2	24.2	99.8
	Other	1	.2	.2	100.0
	Total	583	100.0	100.0	

When it comes to the age distribution, the 19 to 25 age group (32.9%) stands out, followed by the 41 to 50 age group (21.1%) and the 26 to 30 age group (16.6). This means that we're in the presence of a mainly youthful sample.

Table 5 - Age of the total sample

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	19 - 25	192	32.9	32.9	32.9
	26 - 30	97	16.6	16.6	49.6
	31 - 40	93	16.0	16.0	65.5
	41 - 50	123	21.1	21.1	86.6
	51 - 60	62	10.6	10.6	97.3
	Lees than 18	1	.2	.2	97.4
	More than 60	15	2.6	2.6	100.0
	Total	583	100.0	100.0	

As far as academic qualifications are concerned, the large majority of individuals have completed their bachelor's degree (49.1%), followed by those who have completed their master's degree (25.4%), and those who have completed secondary education (23.2%). Only 0.2% of the respondents have only attended the 1st cycle of basic education. This suggests that the sample presents a high level of education.

When it comes to the net monthly income, most of the respondents (37.7%) have an income between 500€ and 1.000€, followed by an income between 1.001€ and 2.000€ (35.2%). Moreover, 12.5% of the respondents claimed they have no income.

Regarding the use of Facebook, respondents reveal a high frequency of access since 59.3% use Facebook several times a day, 19.9% use it once a day, and only 0.9% of the respondents stated they never use the platform. This can be explained by the fact that Facebook is the most popular social media worldwide and due to the fact that it became an important part of people's daily routine (Zhang et al., 2014).

5.1.2. Descriptive Statistics

Descriptive analysis is a set of statistical methods that aim to summarise and describe the attributes that stand out the most. This section makes use of descriptive statistics to portray and analyse the characteristics of the data set under examination presenting the mean, minimum, maximum, mode, and standard deviation. The questions were measured on a scale of 1 to 5 in frequency and importance, where 1 corresponds to 'strongly disagree' and 5 to 'strongly agree'.

Concerning the construct 'relevance of personalised advertising on Facebook', the mean obtained for each item is situated between 2.74 and 3.67, as can be seen in Table 6, and the overall mean is approximately 3.17. The item with the lowest mean concerns the possibility to buy products suggested by personalised advertising and the item with the highest mean refers to personalised advertising's ability to suggest new products. The mode in four of the items is 4 ('agree'), in two of the items is 3 ('neither agree nor disagree'), and in one of the items is 1 ('strongly disagree').

Table 6 - Descriptive statistics - Relevance of personalised advertising on Facebook

	N	Minimum	Maximum	Mean	Mode	Std. Deviation
Match the interests	583	1	5	3.40	4	.983
Relevant information	583	1	5	3.06	3	.982
Waste less time	583	1	5	2.96	3	1.170
Learn new products	583	1	5	3.67	4	1.037
Buy new products	583	1	5	2.74	1	1.440
Connect with brands	583	1	5	3.16	4	1.181
Catch the attention	583	1	5	3.21	4	1.239

With respect to the construct 'personalised vs. non-personalised advertising on Facebook' (Table 7), it appears that there is significant consistency in the mean values, varying between 3.46 and 3.68. The item 'I tend to click more on personalised advertising than on non-personalised advertising' has the lowest mean, meanwhile, the item 'personalised advertising catches my attention more than non-personalised advertising' has the highest mean. The most frequent response in all items was 4 ('agree'), indicating a tendency to prefer personalised advertising over non-personalised advertising, although this preference is not strong.

Table 7 - Descriptive statistics - Personalised vs. Non-personalised advertising on Facebook

	N	Minimum	Maximum	Mean	Mode	Std. Deviation
Prefer to see personalised advertising	583	1	5	3.60	4	1.190
Personalised advertising catches the attention	583	1	5	3.68	4	1.185
Click more on personalised advertising	583	1	5	3.46	4	1.252
Identify more with personalised advertising	583	1	5	3.63	4	1.139
Personalised advertising more relevant	583	1	5	3.64	4	1.150

When analysing 'personalised advertising impact on data privacy' (Table 8), it is possible to verify that the main values of the sample mean vary between 3.35 and 3.92, resulting in an overall mean of approximately 3.69. The mode in four of the items is 5 ('completely agree') and in two of the items is 3 ('neither agree nor disagree').

Table 8 - Descriptive statistics - Personalised advertising impact on data privacy

	N	Minimum	Maximum	Mean	Mode	Std. Deviation
Privacy at risk	583	1	5	3.92	5	1.145
Feel unsafe	583	1	5	3.54	3	1.174
Data use without permission	583	1	5	3.76	5	1.250
Concern about data use	583	1	5	3.90	5	1.184
Personalised advertising is untrustworthy	583	1	5	3.35	3	1.125
Personalised advertising is creepy	583	1	5	3.72	5	1.261

Regarding the construct 'data protection behaviour on Facebook' (Table 9), it can be concluded that the mode is 1 ('completely disagree') in all items and the mean for each item varies between 1.79 and 2.44, suggesting that respondents demonstrate disagreement regarding the items measured.

Table 9 - Descriptive statistics - Data protection behaviour on Facebook

	N	Minimum	Maximum	Mean	Mode	Std. Deviation
Never found it necessary to protect data	583	1	5	2.44	1	1.227
Never changed the privacy settings	583	1	5	2.05	1	1.277
Share data without worrying	583	1	5	1.79	1	.992

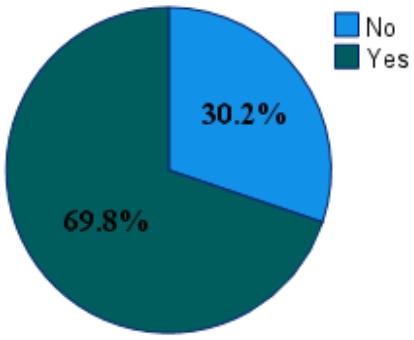
When analysing the construct 'privacy paradox' (Table 10), it can be observed that the mean obtained for each item is situated between 2.34 and 2.81. The mode in three of the items is 1 ('strongly disagree') and in one of the items is 3 ('neither agree nor disagree').

Table 10 - Descriptive statistics - Privacy paradox

	N	Minimum	Maximum	Mean	Mode	Std. Deviation
Provide data only for benefits	583	1	5	2.52	1	1.253
Provide data for economic benefits	583	1	5	2.81	3	1.267
Provide data for entertainment	583	1	5	2.34	1	1.174
Provide data for personalised advertising	583	1	5	2.41	1	1.205

With regards to the item 'I have already received personalised advertising of a product that I only spoke about' it can be seen in Figure 1 that a large percentage of the respondents (69.8%) answered 'yes' and only 30.2% responded that they have never received a tailored ad of a product only discussed orally.

Figure 1 - Descriptive statistics - Personalised advertising of a product only discussed orally



Next, when analysing the answers given to the question 'would you prefer to continue to see personalised advertising or would you be willing to pay a monthly fee to Facebook for the privacy of your data?' it is possible to conclude that the majority of the respondents (80.3%) asserted they prefer to continue to see personalised advertising and only 19.7% responded that they would be willing to pay a monthly fee to Facebook to enhance their privacy.

Table 11 - Descriptive statistics - See personalised advertising or pay a monthly fee

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	See personalised advertising	468	80.3	80.3	80.3
	Pay a monthly fee	115	19.7	19.7	100.0
	Total	583	100.0	100.0	

Regarding the item 'I have already deleted my Facebook account for data security reasons', 88.3% of the respondents answered 'no' and only 11.7% answered 'yes' (Table 12). Of the 68 respondents who said they had deleted their Facebook account, 65 of them (95.6%) stated they went back to Facebook.

Table 12 - Descriptive statistics - Delete Facebook account for security reasons

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	515	88.3	88.3	88.3
	Yes	68	11.7	11.7	100.0
	Total	583	100.0	100.0	

5.1.3. Reliability Analysis

To evaluate the reliability and the internal consistency in terms of the correlation between the questionnaire items of the final data set, Cronbach's alpha values were analysed. It was concluded that all the constructs present appropriate reliability since all values are greater than 0.70 and an instrument can be classified as having an acceptable internal consistency when Cronbach's alpha is at least 0.70, which means that when applied to structurally similar individuals, they will produce similar results (Maroco & Garcia-Marques, 2006).

It is important to have good reliability of the constructs because the higher the covariances, the greater the homogeneity of the items and the greater the consistency with which they measure the same dimension (Maroco & Garcia-Marques, 2006).

Table 13 – Cronbach's alpha of the final data set

Construct	*Cronbach's alpha*	*Number of items*
Relevance of personalised advertising on Facebook	0.875	7
Personalised vs. non-personalised advertising on Facebook	0.929	5
Personalised advertising impact on data privacy	0.890	6
Data protection behaviour on Facebook	0.722	3
Privacy paradox	0.869	4

5.1.4. Spearman's Rho Correlation

The Spearman's rho correlation is a nonparametric test of the strength and direction of association used to calculate the correlation coefficients between two nonmetric variables to verify the existing relationships (Malhotra, 2010; Bryman, 2012). This test is designed for the use of ordinal variables, however it can also be used when one variable is ordinal and the other is interval or ratio (Bryman, 2012). The value of the coefficient varies between -1.0 and 1.0 (Malhotra, 2010; Bryman, 2012) which means that the higher the absolute value of the coefficient, the stronger the relationship between the variables (Bryman, 2012).

If the coefficient value is situated between 0 and 0.2 then there is no association between the variables, if the value is situated between 0.2 and 0.35 then there is a weak association, if the value is situated between 0.35 and 0.6 then it indicates a moderate association, if the value is situated between 0.6 and 0.8 then one is in presence of a strong association, when the value is between 0.8 and 1 the association is very strong, and if the value is 1 then the association is perfect (Saunders et al., 2019).

To better understand the relationship between data privacy concerns and personalised advertising it was examined the correlation coefficients between the item 'I feel that personalised advertising is untrustworthy' and the items 'personalised advertising offers relevant information', 'personalised

advertising allows me to connect with the brands I like', and 'personalised advertising catches my attention'.

Table 14 – Spearman's rho correlation - Personalised advertising untrustworthy

				1	2	3	4
Spearman's rho	1.	Personalised advertising is untrustworthy	Correlation Coefficient	--			
			Sig. (2-tailed)	.			
			N	583			
	2.	Relevant information	Correlation Coefficient	-.358**	--		
			Sig. (2-tailed)	<.001	.		
			N	583	583		
	3.	Connect with brands	Correlation Coefficient	-.367**	.559**	--	
			Sig. (2-tailed)	<.001	<.001	.	
			N	583	583	583	
	4.	Catch the attention	Correlation Coefficient	-.369**	.614**	.624**	--
			Sig. (2-tailed)	<.001	<.001	<.001	.
			N	583	583	583	583

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

It is possible to conclude that the item 'I feel that personalised advertising is untrustworthy' has a negative and moderate association with the items 'personalised advertising offers relevant information', 'personalised advertising allows me to connect with the brands I like', and 'personalised advertising catches my attention' since the values of the coefficients are situated between -0.35 and -0.6.

Additionally, a strong association was found between the items 'personalised advertising catches my attention' and 'personalised advertising offers relevant information' with a Spearman's $\rho = 0.614$, and between the items 'personalised advertising catches my attention' and 'personalised advertising allows me to connect with the brands I like' with a Spearman's $\rho = 0.624$.

The p-values are all lower than the significance level of 0.01, respecting the specifications provided in the table and indicating that the items are correlated. In conclusion, tendentially when consumers consider that personalised advertising is untrustworthy, they do not consider that it offers benefits such as relevant information, connecting with brands, or catching their attention.

Next, a Spearman's rho correlation was conducted to understand if there was a relationship between the item 'I am concerned that my data are used for advertising purposes' and the items 'I feel that my privacy is at risk when I receive personalised advertising', 'I do not feel safe when I receive personalised advertising', and 'I feel that my data were used without my permission when I receive personalised advertising'.

Table 15 – Spearman's rho correlation - Concern about data use for advertising

				1	2	3	4
Spearman's rho	1.	Concern about data use	Correlation Coefficient	--			
			Sig. (2-tailed)	.			
			N	583			
	2.	Privacy at risk	Correlation Coefficient	.555**	--		
			Sig. (2-tailed)	<.001	.		
			N	583	583		
	3.	Feel unsafe	Correlation Coefficient	.596**	.715**	--	
			Sig. (2-tailed)	<.001	<.001	.	
			N	583	583	583	
	4.	Data use without permission	Correlation Coefficient	.671**	.612**	.651**	--
			Sig. (2-tailed)	<.001	<.001	<.001	.
			N	583	583	583	583

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

The results show that the item 'I am concerned that my data are used for advertising purposes' has a moderate association with the items 'I feel that my privacy is at risk when I receive personalised advertising' and 'I do not feel safe when I receive personalised advertising' since the coefficients are situated between 0.35 and 0.6.

The items 'I feel that my data were used without my permission when I receive personalised advertising' and 'I am concerned that my data are used for advertising purposes' have a Spearman's ρ of 0.671, indicating a strong correlation.

Furthermore, the item 'I feel that my data were used without my permission when I receive personalised advertising' also reveals a strong correlation with the item 'I feel that my privacy is at risk when I receive personalised advertising' (Spearman's ρ= 0.612) and with the item 'I do not feel safe when I receive personalised advertising' (Spearman's ρ= 0.651).

It was verified that the correlation coefficient between the items 'I do not feel safe when I receive personalised advertising' and 'I feel that my privacy is at risk' is 0.715, reflecting a strong correlation.

Finally, the p-values are all lower than the significance level of 0.01, confirming the existence of correlations at a significant level and that when consumers are concerned about the use of their personal information, they tend to perceive tailored ads as threatening their privacy and consider that their data was used without their consent.

5.1.5. Chi-Square Test

The chi-square test examines the statistical significance of the observed association between two variables in the population (Malhotra, 2010; Bryman, 2012). It allows one to determine if a systematic association exists between the variables (Malhotra, 2010).

To verify whether there is an association between gender and considering that personalised advertising offers relevant information, a chi-square test was carried out. Since the assumptions of the chi-square test were not verified, Fisher's exact test was performed. The test shows that the chi-square is 7.354 and the p-value is 0.650. The result can be considered significant if the p-value is equal to or less than the significance level of 0.05. In this case, the p-value is higher than the significance level, so the null hypothesis claiming that the two variables are independent is confirmed, therefore there is no significant association at a 0.05 significance level between gender and relevant information.

Table 16 – Fisher's exact test - Gender and personalised advertising relevance

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	5.063[a]	8	.751	.664		
Likelihood Ratio	5.245	8	.731	.636		
Fisher-Freeman-Halton Exact Test	7.354			.650		
Linear-by-Linear Association	.975[b]	1	.324	.332	.174	.024

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
N of Valid Cases	583					

a. 5 cells (33.3%) have expected count less than 5. The minimum expected count is .04.

b. The standardized statistic is .987.

Moreover, further chi-square tests were conducted to verify if there was a correlation between considering that personalised advertising offers relevant information and features such as age, academic qualifications, net monthly income, and time spent on Facebook. However, no statistically significant correlations were found.

Finally, a chi-square test was also conducted to verify if consumers consider that they protect their data on Facebook. Thus, it was determined that the null hypothesis is 'consumers never find it necessary to protect their data on Facebook' and the alternative hypothesis is 'consumers find it necessary to protect their data on Facebook'. The calculations and procedures performed were based on (Saunders & Cooper, 1993) and the results are presented in Table 17.

The observed values were calculated based on the answers obtained through the 5-point Likert scale, being 1 'strongly disagree' and 5 'strongly agree'. The points 1 and 2 were considered as the answer 'yes', and the points 4 and 5 were considered as the answer 'no' since in the questionnaire users were inquired if they did not protect their data, which means that an answer of 1 indicates that the respondent completely disagrees that he/she does not protect his/her data on Facebook. Point 3 of the Likert scale was not considered in this test since it indicates a neutral position, which does not make it possible to determine with certainty whether respondents agree or disagree that they protect their data. The expected values were calculated by dividing the total of the responses considered for this test (450) by two.

Table 17 - Chi-square test – Consumers' data protective behaviour on Facebook

	Observed	***Expected***	***O-E***	***|O-E|-0.5***	***(|O-E|-0.5)^2***	***(|O-E|-0.5)^2/E***
Yes	319	225	94	93.5	8742.25	38.85

	Observed	*Expected*	*O-E*	*|O-E|-0.5*	*(|O-E|-0.5)²*	*(|O-E|-0.5)²/E*
No	131	225	-94	93.5	8742.25	38.85
Total	450					77.7

Results show that the chi-square is 77.7 which can be considered a statistically significant value with a 0.01% significance level (Saunders & Cooper, 1993), confirming the alternative hypothesis stating that consumers have privacy-protective behaviours on Facebook.

5.2. Qualitative Results

5.2.1. Presentation of Results

Regarding the first qualitative question, after the respondents were asked if after deleting their Facebook account, they went back to having an account again, they were asked what were the reasons that led them to get back to Facebook, resulting in a total of 65 answers of which 54 were considered valid.

To perform a thematic analysis, the information was organised and coded by assigning labels to words or phrases that represent relevant topics in each response, identifying all the existing themes. Table 18 presents the thematic analysis conducted including the themes found, some quotes from the answers given, and the frequency value of each theme.

Table 18 – Thematic analysis - Reasons why consumers return to Facebook

Themes	Quotes	Frequency value
Communicate with friends and family	"Need to communicate with friends and family." "To interact with friends again." "Due to the difficulty in connecting with family and friends who only use Facebook."	25
Professional reasons	"I needed it because of my work." "Professional reasons (social media management)."	10

Create a new account	"I deleted to create a new one. I wanted to keep using Facebook but with more security and control." "Because I like the platform and when I came back, I took new measures to protect my personal information."	6
Relevant news and events	"This social network is very convenient for communicating and for accessing relevant news." "To see interesting events in my area."	4
University groups	"Because of the Facebook groups needed to keep up with information regarding the university." "Academic need."	4
Liking Facebook	"Because I like Facebook."	2
Leisure motives	"For leisure."	1
Access websites/applications	"To be able to access other sites/applications that require a Facebook account."	1
Dependency	"It is an addiction."	1

The results show that 9 themes were identified and the theme with the higher frequency value (25 answers) was to communicate with friends and family since Facebook continues to be a very important means of communication and socialisation. Professional reasons are the second most mentioned theme, as social media careers have grown exponentially over the last few years.

Moreover, 6 respondents stated that they deleted their account to create a new one with increased data security measures. The need to keep up to date with relevant events and news is another theme encountered. Additionally, 4 respondents claimed that they returned to Facebook to be in touch with university groups. Finally, other themes found were, liking Facebook, leisure, accessing other websites and applications, and due to a feeling of Facebook dependency.

Regarding the second qualitative data analysis, respondents were asked in which situations personalised advertising on Facebook endangers their privacy. A thematic analysis was performed to identify the situations presented by the respondents, resulting in a total of 18 themes, as can be seen in Table 19.

Table 19 - Thematic analysis - Situations in which personalised advertising threatens users' privacy

Themes	Quotes
In all situations	"Privacy is compromised from the moment it is used for advertising. There is no data literacy. Users do not understand that they are the product."
	"In all situations because it is based on everything we do online, which is supposed to be private."
	"I feel that Internet advertising is becoming a nuisance."
	"Personalised advertising is an invasion of privacy."
	"The lack of privacy that exists nowadays is worrying, but people prefer to ignore it so they do not feel insecure."
When spoken products or services appear in ads	"When I receive advertising about a product I have only spoken orally."
	"It is very creepy when we talk about something and then suddenly advertisements appear about it."
	"I feel that any research I do and even a simple conversation I might have with someone is going to be used by third parties for advertising purposes."
	"Advertisements based on conversations spoken orally or via Messenger are creepy."
	"When I receive advertising related to a topic that I have talked about

Themes	Quotes
	in a conversation. It is creepy."
When mobile phones listen to conversations	"When I discuss topics and/or products orally I forget that my phone is listening, storing, and selling that information to others."
	"Especially when my phone is listening to my conversations."
	"We are constantly being heard."
	"I feel like they hear what I talk about with my family and friends. I feel that I am controlled and that my privacy no longer exists."
	"The fact that social media has access to my phone's microphone is something I really dislike."
	"When they hear my conversations without my consent."
When consumers feel monitored	"I feel a lack of privacy when I search for something and then Google or other sites use their tracking software and make me feel like they always know what I am doing."
	"It feels like I am being watched every time I am on the Internet. If they know everything I see and search, what else do they know about me?"
	"It makes me feel that any step taken on the Internet is being monitored."
	"It makes me feel monitored all the time."
	"I feel exposed and watched."
When ads reflect thoughts	"When it appears what I am thinking about."

Themes	Quotes
When ads come from untrustworthy websites	"When advertising comes from suspicious websites."
When Facebook interconnects with different applications	"The fact that Facebook asks for permission to interact with almost every app to retrieve information is worrying."
	"I have already had to block the interaction between Facebook and my banking apps, although I never gave that permission. For that reason, I decided to delete the Facebook app from my phone."
When consumers feel 'chased'	"When I receive ads about the same type of products on different platforms after showing interest using only one of them."
	"My privacy is threatened when I am chased all over the virtual space by a search I made on a search engine or on social media."
When data is used to cause harm	"Use of data for purposes other than advertising (cyber-attacks, etc.)."
When information is inferred	"When they are not advertisements simply related to what I have researched, but rather conclusions and analysis made from my behaviours."
When data is shared with third parties	"Our information is sold and/or shared with entities we do not know and who get to know everything about us."
	"Every time it provides my personal details to third parties."
	"Especially when it comes to information taken from searches done on platforms other than Facebook. I am concerned about instant data sharing."

Themes	Quotes
	"Our information is sold and/or shared with entities we do not know and who get to know everything about us."
	"Especially when it comes to information taken from searches done on platforms other than Facebook. I am concerned about instant data sharing."
	"When it uses my data to sell and share information with companies without my permission."
	"I consider that the various apps should not share information between them."
	"The problem is when personal data is shared with third parties without people's consent."
When ads use personal contact details	"When they use private information such as sexual orientation, economic, political, social, professional, and educational data."
	"Advertising based on location or financial status."
	"Third party knowledge of my location data and personal data (age, occupation, gender)."
	"When apps ask for access to my microphone, camera, GPS or ID card."
	"When they use my phone number."
When there is a lack of transparency	"Companies are never 100% transparent about how our data is handled and used."
	"When a company's privacy policy is not transparent."

Themes	Quotes
	"We do not know what concrete data companies/platforms have about us and what they can do with that information."
	"There should be more transparency in the use of personal data."
When consumers are 'bombarded' with ads	"When my searches are constantly used to bombard me with products."
	"It is scary when I am bombarded with advertisements every second, not only on this platform but on others. They monitor everything we search. Because of the excessive amount of personalised advertising, I find that the experience is not pleasant."
	"Every time I search for something, I immediately get flooded with Facebook ads."
When ads use intimate or sensitive information	"It exposes our lives completely. Imagine an example of when we are showing something to a friend on our Facebook account and suddenly a personalised ad that we are not comfortable in sharing appears."
	"When I do more intimate research and then receive personalised ads in my feed related to that." "Advertising related to health items."
	"When it is invasive. Example: accessing the Wi-Fi network of an oncology clinic and starting to receive targeted ads such as wigs, self-help websites, etc."

Themes	Quotes
When companies have valuable and unique data	"When they know too many details about my tastes, interests, and location."
	"They seem to know everything about me."
	"When these companies have relevant and unique information about my life."
	"Knowing what I like without me saying anything. It makes me confused."
When consumers receive ads after using the incognito mode	"When I search something in the incognito mode and I still receive ads related to my search."
Never	"In my opinion, there are few if any occasions where personalised advertising compromises my privacy."
	"I do not consider that personalised advertising threatens my privacy. We live in an age of technology, of the Internet, so whether we like it or not, our data is collected whether by simply doing a search on Google or by following a route on Google Maps. The fact that we can receive personalised advertising allows us to be shown interesting ads."
	"I believe personalised advertising delivers value to customers, but it is important to ensure that it will not harm them in the future."
	"Users only provide the information they want, therefore no invasion of privacy can be considered to exist."

Data privacy is a critical topic of concern for consumers since there is no privacy online nowadays, as stated by respondents "The lack of privacy that exists nowadays is worrying", "I feel that I am controlled and that my privacy no longer exists" and that the only way to guarantee privacy online

would be to completely disconnect from the Internet: “If we are effectively concerned about the privacy of our data, the solution would be to disconnect completely”.

Moreover, consumers stated that they believe that personalised advertising puts their privacy at risk in all situations. One respondent stated that consumers have little knowledge of how data is managed and that consumers are the ‘product’ in this process.

Another theme that emerged was that consumers’ privacy is threatened when they receive personalised advertising about something they have only spoken about with someone and have never searched online about it, describing this situation as being ‘creepy’.

Respondents also believe that their privacy is at risk when they feel that their conversations are listened to through their mobile phone’s microphone and because they feel that they are being constantly monitored in everything they do online to the point that they ask themselves what other information companies could possibly have about them: “If they know everything I see and search, what else do they know about me?”.

Furthermore, consumers feel that companies know them so well that personalised ads seem to have the ability to read consumers’ minds, as claimed by a respondent: “When it appears what I am thinking about”.

Another threatening situation mentioned was when advertisements come from untrustworthy websites, making consumers feel that the security of their data is jeopardised.

Respondents also stated that they feel insecure about the protection of their data when Facebook interconnects with different mobile applications.

Moreover, consumers reported that they are often ‘chased’ on the Web and social media by the same ad after they have researched a product or service on the Internet (“My privacy is threatened when I am chased all over the virtual space by a search I made on a search engine or social media”).

Consumers also stated that they fear their data will be used to cause them harm, such as cyber-attacks, and they believe their privacy is infringed when ads are not limited to their personal

information or browsing history and include information that has been inferred through their online behaviour.

Respondents are concerned that their data are shared with third parties for commercial purposes without their permission or knowledge. One respondent stated “Our information is sold and/or shared with entities we do not know and who get to know everything about us”.

Personalised advertising has a negative impact on consumers’ privacy perception when personal contact details (e.g., mobile phone) and personal information (e.g., political preferences) are used.

Moreover, respondents also affirmed that their privacy was compromised when a lack of transparency exists in how companies manage and use consumers’ data and in their privacy policies.

Another theme mentioned was when consumers receive too many personalised ads and the fact that they are constantly ‘bombarded’ with advertising diminishes their online experience (“Because of the excessive amount of personalised advertising, I find that the experience is not pleasant”).

Personalised advertising also violates consumers’ privacy when it is related to topics that are more intimate, sensitive, or that could cause embarrassment if seen by others. Health-related topics were mentioned and one responded claimed that after accessing the Wi-Fi network of an oncology clinic, she started to receive self-help and wig advertisements.

Furthermore, respondents believe that advertising platforms such as Facebook possess large amounts of data about them without them having provided that information and hold unique details about their lives, to the point of considering that companies know everything about them (“They seem to know everything about me”).

To ensure greater privacy, consumers said that they use the incognito mode, yet they still end up receiving tailored ads.

Finally, the situation in which personalised advertising never threatens consumers’ privacy was also exposed. Respondents claimed that personalised advertising offers benefits and creates value by showing ads of interest to them. Moreover, the existence of personalised advertising was considered inevitable in the technological world we live in and it is the only way one can have an

account on Facebook for free, as claimed by one respondent “It seems to be the bargaining chip for having a Facebook account, unfortunately”.

Next, a word frequency query (Table 20) and a word cloud (Figure 3) were performed in the software NVivo to understand which are the most common words in the data set.

Table 20 - Word frequency query

Words	Frequency
Data	130
Publicity	121
Privacy	56
Personalised	36
Always	33
Facebook	32
Appears	28
Research	24
Conversations	21
Orally	21
Speak	16
Creepy	12

It is possible to conclude that the three words that appear most frequently are ‘data’ (130 times), ‘publicity’ (121 times), and ‘privacy’ (56 times), also confirmed by the size of these words in the word cloud. It is interesting to see that the words ‘conversations’, ‘orally’, ‘speak’, and ‘creepy’ were also often used, which confirms that consumers feel that their privacy is threatened when products, services, or themes discussed in conversations appear in personalised advertisements.

Moreover, the word ‘creepy’ is also one of the most referred words (13 times), describing people’s feeling when they receive an ad of a product referred in a conversation, as a respondent mentioned “It is very creepy when we talk about something and then suddenly advertisements appear about it”.

Figure 2 - Word cloud

Chapter 6 - Discussion

This exploratory study aims to investigate the gap existing between personalised advertising and data privacy concerns since the interest in the literature and business in this subject has grown exponentially over the last years (Wirtz et al., 2017), however, few studies exist (Bang & Lee, 2016; Tran, 2017; Wirtz et al., 2017; Shanahan et al., 2019; Tran, 2020a), especially when it comes to those involving Portuguese consumers as no previous studies were found.

Regarding Hypothesis 1 which states that 'Consumers perceive personalised advertising on Facebook as relevant and useful', the results of this study show that the mean obtained for each item measured is situated between 2.74 and 3.67 and the overall mean is approximately 3.17. The mode in four of the items is 4 ('agree'), in two of the items is 3 ('neither agree nor disagree'), and in one of the items is 1 ('strongly disagree'), therefore H1 is rejected.

Although the literature indicates that personalised advertising is perceived by consumers as being more relevant, interesting, convenient, and allows to distinguish pertinent ads from spam (Kim et al., 2019; Shanahan et al., 2019; Al Qudah et al., 2020; Tran, 2020b), the results of this study propose that the sample under study tends to exhibit a certain indifference towards personalised advertising relevance. This could be explained by the exponential growth of online advertising which is getting ubiquitous to the point of diminishing users' experience and perceived relevance (Estrada-Jiménez et al., 2017), as can be confirmed by the qualitative results obtained. Respondents stated that "Because of the excessive amount of personalised advertising, I find that the experience is not pleasant", "Every time I search for something, I immediately get flooded with Facebook ads".

Concerning the Hypothesis 2 ('Consumers prefer to see personalised advertising over non-personalised advertising on Facebook), results show that the overall mean is approximately 3.60 and the mode for all items is 4 ('agree'), which indicates that the sample under study prefers to see personalised ads over non-personalised ads, although this preference is not strong. This result is according to the literature that claims that nowadays non-personalised advertising is no longer an effective strategy since consumers do not want to receive mass advertising as they prefer advertising reflecting their characteristics, interests, and needs (Kim et al., 2019; Al Qudah et al., 2020; Ruckenstein & Granroth, 2020). Therefore, Hypothesis 2 is supported.

In regard to Hypothesis 3 which states 'Personalised advertising on Facebook produces data privacy concerns', the overall mean is approximately 3.69 and the most frequent answer given to four out of six questions was 5 'completely agree', suggesting the existence of privacy concerns. The increasing awareness in the Portuguese society about privacy can also be confirmed by the qualitative data, with respondents stating "Personalised advertising is an invasion of privacy", "Every time my data is used to provide personalised advertising my privacy is endangered", "Privacy is compromised from the moment it is used for advertising", hence Hypothesis 3 is supported.

This conclusion is in accordance with the literature which asserts that privacy became the most frequent issue when discussing social media (Walrave et al., 2018; Tran, 2020b; Van den Broeck et al., 2020) and the tension between personalisation and privacy has grown over the last years (Cloarec et al., 2022). The growing concern about privacy can be explained by recent events like the Facebook-Cambridge Analytica scandal and the various incidents reported after that event that enhanced consumers' awareness of privacy threats (Cain & Imre, in press). In April 2021, personal data such as mobile phone numbers, full names, dates of birth, location data, and email addresses of 533 million Facebook users were revealed in an online forum for hackers (Público, 2021). Among the victims were included more than 2 million Portuguese users (Público, 2021).

Additionally, the results obtained in this study reveal that 68 respondents (11.7%) claimed they have already deleted their Facebook account due to security reasons and 65 of them (95.6%) assumed that they have created a Facebook account again, which confirms that although users are concerned about their privacy, they feel 'stuck' on Facebook and find it difficult to break out of it, especially because it became an essential part of people's daily routine (Zhang et al., 2014). Additionally, many users end up reactivating their account or creating a new one due to the nostalgia for the left virtual community, the lack of social connections, or to regain access to community members' ideas and information (Maier et al., 2021).

The reasons given by respondents explaining why they have returned to Facebook were categorised into 9 different themes, these being, to communicate with friends and family, due to professional reasons, to create a new profile with greater security measures, to be informed about relevant news and events, to access University groups, because they like Facebook, for leisure, to access other sites or applications, and due to a feeling of Facebook 'dependency'. The most mentioned reason was to communicate with friends and family (25 answers) since social platforms respond to

people's need for social relationships (Cain & Imre, in press) and the need for belonging to a community (Kokolakis, 2017).

With respect to Hypothesis 4 ('Consumers do not hold protective behaviours regarding the protection of their data on Facebook'), the mean for each item varies between 1.79 and 2.44 and the mode for all items is 1 ('strongly disagree'). Moreover, the chi-square test performed revealed a statistically significant value of 77.7 with a 0.01% significance level which allowed to confirm the alternative hypothesis stating that consumers have privacy-protective behaviours on Facebook, thus Hypothesis 4 is rejected.

The privacy paradox suggests that there is a discrepancy between users' intentions of privacy and their behaviours, stating that people want more privacy, yet they have privacy-threatening behaviours such as disclosing personal information on social media (Hargittai & Marwick, 2016; Barth & de Jong, 2017; Kokolakis, 2017; Yee et al., 2019; Akanbi, 2021). However, this study does not support the existence of the privacy paradox, suggesting that the sample under study is concerned about privacy and engages in protective behaviours.

A possible explanation for this result is that the sample of this study are Portuguese individuals. According to Hofstede's cultural dimensions, Portugal is a culture with a high Uncertainty Avoidance (Soares et al., 2007) which refers to how the individuals of a culture cope with unpredictable and ambiguous situations (Soares et al., 2007; Aurigemma & Mattson, 2018). A society with high Uncertainty Avoidance desires to minimise uncertainty, holding rigid codes of behaviour and beliefs, being less tolerant of unorthodox behaviours (Soares et al., 2007), and believing that security is an essential element in people's lives (Aurigemma & Mattson, 2018). Uncertainty Avoidance is the most used cultural dimension to explain technology-related phenomenon (Aurigemma & Mattson, 2018). Therefore, a relationship may exist between the Portuguese and the maintenance of data protection behaviours on Facebook since this society maintains rigid codes of behaviour and security and avoids ambiguous situations.

Regarding the Hypothesis 5 ('Consumers are not willing to pay to enhance their data privacy on Facebook'), the results show that the majority of the respondents (80.3%) asserted they prefer to see personalised advertising rather than pay a monthly fee to Facebook to improve their data privacy (19.7%), therefore H5 is supported. This conclusion is in line with the claim that consumers demand more privacy, yet they show a great disinterest in paying for it (Schreiner & Hess, 2015; Pomfret et al., 2020). This can be justified by the fact that most consumers may not

have the necessary monetary resources (Pomfret et al., 2020) and this can be particularly relevant due to the impact of the Covid-19 pandemic on the Portuguese and global economy.

Furthermore, it is interesting to see that 19.7% of the respondents answered that they would be willing to pay a monthly fee to Facebook which indicates that a privacy-freemium service, as suggested by Schreiner and Hess (2015), could be an effective business model to implement on this social platform. This revenue model would offer a free version in which all users would have access to a basic account and a premium version with an upgraded service with privacy control features for a monthly fee (Schreiner & Hess, 2015).

When analysing Hypothesis 6 ('Consumers are willing to disclose private information on Facebook to obtain benefits'), one can notice that the mean obtained for each item is situated between 2.34 and 2.81 and the most frequent answer given in four out of five items was 'strongly disagree', which indicates that consumers are not interested in exchanging personal information for benefits, thus H6 is rejected.

The privacy paradox clarifies that people are willing to disclose personal information on social media to obtain benefits, which means that they are not worried about losing a certain degree of privacy if they are going to be compensated for that (Barth & de Jong, 2017; Kokolakis, 2017; B. Kim & D. Kim, 2020; Martin, 2020; Van den Broeck et al., 2020; Jang & Sung, 2021; Liyanaarachchi, 2021). However, the results of this investigation do not support the existence of the privacy paradox or the argument that privacy can be traded (Martin, 2020), suggesting that the sample of this study is not willing to give up privacy for any of the benefits presented (economic benefits, entertainment benefits, or personalised advertising). Since safety is an important need in Portuguese society and since it is regulated by rigid codes of beliefs and behaviours, the exchange of privacy may be seen as inappropriate behaviour and cause uncertain consequences.

Finally, in relation to Hypothesis 7 which states that 'Women tend to perceive that personalised advertising on Facebook offers less relevant information than men', results from the chi-square test demonstrate that gender and relevance are not associated with each other, which means that there is gender equality in the perception of the relevance of personalised advertising, hence rejecting H7. This conclusion is not in accordance with the literature supporting that women tend to have more negative responses to personalised ads (Tran, 2017).

Regarding the qualitative data obtained, responses indicate that consumers agree that tailored advertising invades their privacy, being this in accordance with the quantitative data obtained. The performed thematic analysis allowed to identify the situations in which tailored ads cause privacy threats, these being, in all situations, when spoken themes are shown in ads, when mobile phones listen to conversations, when consumers feel monitored, when advertising seems to 'read' consumers' thoughts, when ads come from untrustworthy websites, when Facebook interconnects with different applications, when consumers are 'chased' by the same ad on the Web and on social media, when data is used to cause harm, when consumers' characteristics are inferred, when data is shared or sold to third parties, when personal contact details are used, when there is a lack of transparency, when consumers are 'bombarded' with ads, when ads are related to more intimate or sensitive themes, when companies have valuable and unique data, when consumers receive targeted ads despite having researched in the incognito mode, and finally, some respondents suggested that personalised advertising does not threaten their privacy.

Respondents agreed that their privacy was at risk when they receive tailored ads on Facebook about a product, service, or theme that they had only spoken about with their friends and had never searched about it, describing this experience as being 'creepy'. This conclusion agrees with the literature which states that users feel frightened when they talk with somebody about a certain product and then receive ads related to that product (Herder & Zhang, 2019; Zhang et al., 2021).

Moreover, results show that consumers believe they are constantly being monitored and that all their online steps are being 'watched'. This situation is described in the literature as consumers' unpleasant feeling of being surveilled and followed on the Internet (Ruckenstein & Granroth, 2020). Regarding this topic, respondents asserted "It feels like I am being watched every time I am on the Internet", "It makes me feel that any step taken on the Internet is being monitored", "It makes me feel monitored all the time".

Additionally, respondents feel that their conversations are being listened to and recorded by companies and especially by Facebook through the microphone of their mobile phones. Some of the statements made were "We are constantly being heard", "I forget that my phone is listening, storing, and selling that information to others", "When they hear my conversations without my consent". Facebook has declared that it does not monitor users' conversations through their mobile phones to deliver ads (Forbes, 2017). Although the rumour that Facebook and other companies are recording our conversations has been several times denied, people still believe they are being listened to (Forbes, 2017). This type of location-based advertising is delivered by Facebook by

using sophisticated demographic and location data, assuming that people that share the same geographic location and sociodemographic characteristics may also share the same interests, tastes, and needs, hence they may receive the same ads (USA Today, 2019).

Therefore, one of the main results of this study is that it suggests the existence of cyber-paranoia regarding personalised advertising that is described by respondents as being according to their conversations (sophisticated location-based advertising). Moreover, the cyber-paranoia is reflected in the belief that companies, and Facebook in particular, are listening to users' conversations through their mobile phones and use this information to deliver personalised advertisements, infringing consumers' privacy. This concept is characterised in the literature as "unrealistic fears concerning threats via information technologies whereby individuals perceive themselves to be open to being 'attacked', persecuted or victimized in some way" (Walsbergerová, 2018, p. 2).

Paranoia is the extreme version of distrust (Walsbergerová, 2018) and it should not be seen as a mental disorder only but also as an important part of a normal functioning human psychology (Zimaitis et al., 2020). We live in a world where the boundaries between what is and what is not possible to happen regarding technology became blurred (Mason et al., 2014). The relationship between technology and human beings has been turbulent (Walsbergerová, 2018; Zimaitis et al., 2020) and the increased use of technology in our daily routine caused the appearance of 'technology delusions' (Mason et al., 2014). The rapid growth of technology and Artificial Intelligence (AI) has been accompanied by the development of cyber-paranoia, as people are still unable to keep up with technological revolutions (Walsbergerová, 2018), evoking irrational distrust (Zimaitis et al., 2020).

Some studies have analysed the relationship between paranoia and online shopping (Zimaitis et al., 2020), paranoia and willingness to disclose personal information when shopping online (Urbonavicius et al., 2021), cyber-paranoia and Artificial Intelligence (Walsbergerová, 2018), and cyber-paranoia and information technology-related threats (Mason et al., 2014). However, the relationship between paranoia and online activities has still little research (Urbonavicius et al., 2021) and no articles were found on the relationship between cyber-paranoia and personalised advertising.

Table 21 - Summary of hypotheses' results

Hypotheses	Results
H1: Consumers perceive personalised advertising on Facebook as relevant and useful.	**Rejected**
H2: Consumers prefer to see personalised advertising over non-personalised advertising on Facebook.	Supported
H3: Personalised advertising on Facebook produces data privacy concerns.	Supported
H4: Consumers do not hold protective behaviours regarding the protection of their data on Facebook.	**Rejected**
H5: Consumers are not willing to pay to enhance their data privacy on Facebook.	Supported
H6: Consumers are willing to disclose private information on Facebook to obtain benefits.	**Rejected**
H7: Women tend to perceive that personalised advertising on Facebook offers less relevant information than men.	**Rejected**

Chapter 7 - Final Considerations

7.1. Conclusion

In this exploratory study, it was aimed to investigate the personalised advertising-privacy gap on Facebook, since Facebook is the most popular social media worldwide and a successful advertising platform despite having been involved in several controversies regarding its privacy procedures (B. Kim & D. Kim, 2020).

Data collection was carried out using a mixed-methods approach (quantitative and qualitative) through a survey by a questionnaire which allowed for the gathering of a very respectable sample of 607 responses of which 583 were considered valid. The questionnaire was designed based on the literature review conducted throughout the research and some sociodemographic questions were also employed to characterise the profile of the respondents. The quantitative data collected were processed in the statistical software IBM SPSS (Statistical Package for the Social Sciences) version 28 and the qualitative data were processed in the Software NVivo version 12.

The results obtained permitted to verify the validity of the research questions in which three hypotheses were supported (H2: Consumers prefer to see personalised advertising over non-personalised advertising on Facebook; H3: Personalised advertising on Facebook produces data privacy concerns; H5: Consumers are not willing to pay to enhance their data privacy on Facebook) and four hypotheses where rejected (H1: Consumers perceive personalised advertising on Facebook as relevant and useful; H4: Consumers do not hold protective behaviours regarding the protection of their data on Facebook; H6: Consumers are willing to disclose private information on Facebook to obtain benefits; H7: Women tend to perceive that personalised advertising on Facebook offers less relevant information than men).

The results supporting Hypothesis 2 are in accordance with the literature claiming that users prefer personalised ads over non-personalised ads, since generic ads do not answer consumers' specific needs, desires, and interests (Kim et al., 2019; Al Qudah et al., 2020; Ruckenstein & Granroth, 2020), although this preference is not strong. The quantitative and the qualitative data obtained in this study support Hypothesis 3 since privacy concerns are the most frequent issue in social media (Walrave et al., 2018; Tran, 2020b; Van den Broeck et al., 2020). The support of Hypothesis 5 is in accordance with Schreiner and Hess (2015) and Pomfret et al. (2020) which advocate that consumers are not interested in paying to enhance their privacy on Facebook.

On the other hand, Hypothesis 1 was rejected since results show that consumers do not demonstrate that they consider that personalised advertising offers relevant information. A possible explanation is how ubiquitous personalised advertising is and how it is responsible for the degradation of the consumers' experience. Hypothesis 4 was also rejected since the results obtained suggest that consumers hold protective behaviours regarding their data on Facebook. This can be explained by the high Uncertainty Avoidance that the Portuguese society is characterised in which rigid codes of behaviour need to be respected and ambiguous situations need to be avoided (Soares et al., 2007). This can also explain the rejection of Hypothesis 6 because security is an important need and the exchange of privacy for benefits may cause unexpected consequences. Hypothesis 7 was also rejected since results do not support that gender and relevance are associated with each other, suggesting gender equality in the perception of personalised advertising relevance.

On the grounds of these results, it is possible to answer the research questions formulated earlier. Regarding Q1 (What is the impact of Facebook's personalised advertising on consumers' privacy concerns?) it is possible to conclude that Facebook's personalised advertising has a negative impact on data privacy concerns proved by both quantitative and qualitative data. The results suggest the existence of cyber-paranoia regarding personalised advertising on Facebook when consumers receive ads of a product or service that they had spoken with someone, describing this as 'creepy'.

Regarding Q2 (In which situations does personalised advertising threaten consumers' privacy?), this study revealed 17 privacy-threatening situations, proposing that consumers feel that tailored advertising endangers their data privacy on various occasions.

7.2. Contributions

As mentioned earlier, the interest in the literature and business in personalised advertising on social networks has grown over the years (Wirtz et al., 2017), however, still little research exists on this subject (Bang & Lee, 2016; Tran, 2017; Wirtz et al., 2017; Shanahan et al., 2019; Tran, 2020a). Thus, this study increases knowledge on this topic and the findings can be beneficial to current management and marketing practices.

This investigation can help marketers understand how to better implement personalised advertising in a way that takes into account consumers' concerns about their privacy and perceived intrusiveness. Considering the importance of privacy concerns for influencing consumers'

behaviours, marketers must identify when and whether their company's data collection methods and strategies are increasing consumers' perception of privacy violation. This study presents 17 situations in which respondents perceive their privacy is under threat and they can be useful to marketers when implementing advertising campaigns.

The results of this investigation indicate that people are not interested in trading their privacy for benefits and they maintain protective behaviours to safeguard their data on Facebook. The privacy paradox was not supported in this research, proposing that the Portuguese are worried about the privacy of their data and have security behaviours in line with that concern. Therefore, the use of tailored ads in which consumers need to provide their personal information in exchange for benefits needs to be carefully analysed.

Moreover, this study suggests the existence of a relationship between cyber-paranoia and personalised advertising. Consumers believe that their conversations are being listened to and recorded through their mobile phones to deliver personalised ads. They state that they receive tailored ads after talking about a particular topic and this type of location-based advertising threatens consumers' privacy and evoke cyber-paranoia, hence its use should be limited. No articles were found on the relationship between personalised advertising and cyber-paranoia, therefore this investigation presents an innovative contribution and opens new avenues for future research.

In conclusion, the amount of data available on the Internet has developed marketers' capabilities to reach consumers in an effective way. With consumers regularly sharing their data online and with cookies tracking every click, firms obtain valuable insights to target them with tailored advertisements. However, consumers may perceive this practice as a privacy invasion and can lead to negative responses. Therefore, marketers need to focus on increasing transparency and understand where to 'draw the line' between using consumers' data to personalise ads that will respond to their needs and creating ads that are going to be perceived as 'creepy' and trigger cyber-paranoia.

7.3. Limitations and Future Investigations

Firstly, given that the sampling technique chosen was a non-probabilistic sampling process, the possibility of generalisation of the data collected is reduced. However, the sample is still significant

and contemplates answers for different genders, age groups, educational backgrounds, and monthly incomes.

To achieve generalisation and to better approximate the reality of this study to the context of the Portuguese society, it should be considered a more heterogeneous and representative sample of the population. Future investigations could apply the results of this study to a more representative sample of the Portuguese population.

Finally, as no literature was found on the relationship between personalised advertising and cyber-paranoia and since this is an exploratory study, more research is needed on this subject.

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Appendices

Appendix A – Questionnaire

Publicidade Personalizada e Privacidade dos Dados no Facebook (Personalised Advertising and Data Privacy on Facebook)

O presente questionário foi criado no âmbito da dissertação de Mestrado em Gestão e destina-se a investigar a publicidade personalizada e o seu impacto na privacidade dos dados no Facebook. (The present questionnaire was created as part of the Master of Management dissertation and it aims to investigate personalised advertising and its impact on data privacy on Facebook.)

Não existem respostas certas ou erradas, pelo que o importante é dar a sua opinião sincera. A participação é confidencial e os dados recolhidos serão utilizados somente no domínio desta investigação. (There are no right or wrong answers, so the most important is to give your honest opinion. Participation is confidential and the data collected will be used only in the field of this research.)

Este questionário deverá ser respondido apenas por pessoas que possuam conta no Facebook e que residam em Portugal há mais de 6 meses. (This questionnaire should only be responded by people who have a Facebook account and who have lived in Portugal for more than 6 months.)

Desde já agradeço pela colaboração! (Thank you in advance for your collaboration!)
Viktoriya Sharaburyak

Antes de iniciar o questionário deverá saber: (Before you start the questionnaire you should know:)

1. Publicidade personalizada no Facebook – Publicidade em que se utilizam informações pessoais (dados sociodemográficos, histórico de navegação, entre outros) para criar anúncios de acordo com as necessidades, interesses e gostos dos utilizadores. (**Personalised Advertising on Facebook -** Advertising in which personal information (sociodemographic features, browsing history, among others) is used to create ads according to users' needs, interests, and tastes.)

Exemplo: Pesquisei uns óculos num website e depois recebi uma publicidade no Facebook dos óculos que vi. (Example: I searched for a pair of glasses on a website and then received an advertisement on Facebook for the glasses I saw.)

2. Publicidade não personalizada no Facebook – Publicidade que não se baseia nas características específicas ou no comportamento online anterior dos utilizadores. (2. **Non-Personalised Advertising on Facebook -** Advertising that is not based on users' specific characteristics or previous online behaviour (Tran, 2020a).

Conta no Facebook (Account on Facebook)

Tem conta no Facebook? Sim_ Não_ (Do you have a Facebook account? Yes_ No_)

Residência em Portugal (Residence in Portugal)

Reside em Portugal há mais de 6 meses? Sim_ Não_ (Have you lived in Portugal for more than 6 months? Yes_ No_)

Parte 1 - Relevância da publicidade personalizada no Facebook (Part 1 - Relevance of personalised advertising on Facebook)

Avalie as seguintes afirmações usando a escala de 1 a 5, em que 1 é 'discordo completamente' e 5 é 'concordo completamente'. (Evaluate the following statements using a scale of 1 to 5, where 1 is 'strongly disagree' and 5 is 'strongly agree'.)

1. A publicidade personalizada costuma estar de acordo com os meus interesses. (1. Personalised advertising usually matches my interests.)
2. A publicidade personalizada oferece informação relevante. (2. Personalised advertising offers relevant information.)
3. A publicidade personalizada permite-me perder menos tempo com informação irrelevante. (3. Personalised advertising allows me to waste less time on irrelevant information.)
4. A publicidade personalizada permite-me conhecer produtos novos. (4. Personalised advertising allows me to learn new products.)

5. Já comprei produtos sugeridos pela publicidade personalizada. (5. I have already purchased products suggested by personalised advertising.)
6. A publicidade personalizada permite-me conectar com as marcas que gosto. (6. Personalised advertising allows me to connect with the brands I like.)
7. A publicidade personalizada chama-me a atenção. (7. Personalised advertising catches my attention.)

Parte 2 - Publicidade personalizada vs. Publicidade não personalizada no Facebook (Part 2 - Personalised vs. Non-personalised advertising on Facebook)

Avalie as seguintes afirmações usando a escala de 1 a 5, em que 1 é 'discordo completamente' e 5 é 'concordo completamente'. (Evaluate the following statements using a scale of 1 to 5, where 1 is 'strongly disagree' and 5 is 'strongly agree'.)
1. Prefiro ver publicidade personalizada a publicidade não personalizada. (1. I prefer to see personalised advertising over non-personalised advertising.)
2. A publicidade personalizada chama-me mais a atenção do que a publicidade não personalizada. (2. Personalised advertising catches my attention more than non-personalised advertising.)
3. Costumo clicar mais em publicidade personalizada do que em publicidade não personalizada. (3. I usually click more on personalised advertising than on non-personalised advertising.)
4. Identifico-me mais com a publicidade personalizada do que com a publicidade não personalizada. (4. I identify more with personalised advertising than with non-personalised advertising.)
5. Acho a publicidade personalizada mais relevante que a publicidade não personalizada. (5. I find personalised advertising more relevant than non-personalised advertising.)

Parte 3 - Impacto da publicidade personalizada na privacidade dos dados no Facebook (Part 3 - Personalised advertising impact on data privacy)

Avalie as seguintes afirmações usando a escala de 1 a 5, em que 1 é 'discordo completamente' e 5 é 'concordo completamente'. (Evaluate the following statements using a scale of 1 to 5, where 1 is 'strongly disagree' and 5 is 'strongly agree'.)

1. Sinto que a privacidade dos meus dados está em risco quando recebo publicidade personalizada. (1. I feel that my privacy is at risk when I receive personalised advertising.)
2. Não me sinto seguro(a) quando recebo publicidade personalizada. (2. I do not feel safe when I receive personalised advertising.)
3. Sinto que os meus dados foram utilizados sem a minha permissão quando recebo publicidade personalizada. (3. I feel that my data were used without my permission when I receive personalised advertising.)
4. Preocupa-me que os meus dados sejam utilizados para fins publicitários. (4. I am concerned that my data are used for advertising purposes.)
5. Considero a publicidade personalizada pouco confiável. (5. I consider personalised advertising untrustworthy.)
6. Considero que por vezes a publicidade personalizada é assustadora. (6. I consider that sometimes personalised advertising is creepy.)
7. Já recebi publicidade personalizada de um produto que apenas falei oralmente com alguém. Sim_ Não_ (7. I have already received personalised advertising of a product that I only spoke about orally. Yes_ No_)
8. Preferia continuar a ver/receber publicidade personalizada ou estaria disposto(a) a pagar uma mensalidade no Facebook pela privacidade dos seus dados? Continuar a ver/receber publicidade personalizada_ Pagar uma mensalidade pela privacidade _ (8. Would you prefer to continue to see personalised advertising or would you be willing to pay a monthly fee to Facebook for the privacy of your data? Continue to see personalised advertising_ Pay a monthly fee to Facebook_)

Parte 4 - Comportamento de proteção dos dados no Facebook (Part 4 - Data protection behaviour on Facebook)

Avalie as seguintes afirmações usando a escala de 1 a 5, em que 1 é ‘discordo completamente’ e 5 é ‘concordo completamente’. (Evaluate the following statements using a scale of 1 to 5, where 1 is ‘strongly disagree’ and 5 is ‘strongly agree’.)

1. Nunca achei necessário tomar medidas de proteção dos meus dados. (1. I have never found it necessary to take measures to protect my data.)
2. Nunca alterei as definições de privacidade do meu perfil. (2. I have never changed the privacy settings on my profile.)

3. Partilho conteúdos/informações pessoais sem me preocupar com a privacidade. (3. I share personal content/information without worrying about privacy.)
4. Já eliminei a minha conta do Facebook por motivos de segurança dos meus dados. Sim_ Não_ (4. I have already deleted my Facebook account for data security reasons. Yes _ No_)
5. Após eliminar a minha conta, voltei a ter conta novamente. Sim_ Não _ (5. After deleting my account, I went back to have an account again. Yes _ No_)
6. Porque voltou a ter conta novamente? (6. Why did you get the account again?)

Parte 5 - Paradoxo da privacidade (Part 5 - Privacy Paradox)

Avalie as seguintes afirmações usando a escala de 1 a 5, em que 1 é 'discordo completamente' e 5 é 'concordo completamente'. (Evaluate the following statements using a scale of 1 to 5, where 1 is 'strongly disagree' and 5 is 'strongly agree'.)
1. Estou disposto(a) a fornecer os meus dados pessoais apenas se receber benefícios. (1. I am willing to provide personal data only if I obtain benefits.)
2. Estou disposto(a) a fornecer os meus dados para receber benefícios económicos (ex.: serviços gratuitos, descontos). / (2. I am willing to provide personal data to obtain economic benefits (e.g., free services, discounts)).
3. Estou disposto(a) a fornecer os meus dados para receber entretenimento. (3. I am willing to provide my data to obtain entertainment.)
4. Estou disposto(a) a fornecer os meus dados para receber publicidade de acordo com os meus interesses. (4. I am willing to provide my data to obtain advertising according to my interests.)

Parte 6 - Opinião dos utilizadores (Part 6 – Users' opinion)

Na sua opinião, em que situação / situações a publicidade personalizada põe em causa a sua privacidade? (In your opinion, in what situation / situations does personalised advertising threaten your privacy?)

Parte 7 – Caracterização da amostra (Part 7 - Characterisation of the sample)

1. Idade (1. Age)

Menos de 18 anos (Less than 18)
19 – 25 anos (19-25 years)
26 – 30 anos (26 – 30 years)
31 – 40 anos (31 – 40 years)
41 – 50 anos (41 – 50 years)
51 – 60 anos (51 – 60 years)
Mais de 60 anos (More than 60 years)

2. Género (2. Gender)

Feminino (Female)
Masculino (Male)
Outro (Other)

3. Habilitações académicas (3. Academic qualifications)

1º Ciclo (4º ano) (1st Cycle (4th year))
2º Ciclo (5º e 6º ano) (2nd Cycle (5th and 6th year))
3º Ciclo (7º ao 9º ano) (3rd Cycle (7th to 9th grade))
Ensino Secundário (10º ao 12º ano) (Secondary Education (10th to 12th year))
Licenciatura (Bachelor's Degree)
Mestrado (Master)
Doutoramento (PhD)
Pós-Graduação (Postdoc)

4. Rendimento mensal líquido (4. Net monthly income)

Sem rendimento (No income)
Menos de 500€ (Less than 500€)
Entre 500€ e 1.000€ (Between 500€ and 1.000€)
Entre 1.001€ e 2.000€ (Between 1.001€ and 2.000€)
Entre 2.001€ e 3.000€ (Between 2.001€ and 3.000€)
Entre 3.001€ e 4.000€ (Between 3.001€ and 4.000€)
Entre 4.001€ e 5.000€ (Between 4.001€ and 5.000€)
Entre 5.001€ e 6.000€ (Between 5.001€ and 6.000€)

Mais de 6.000€ (More than 6.000€)

5. Frequência com que acede ao Facebook (5. Frequency of Facebook access)

Várias vezes por dia (Several times a day)

Uma vez por dia (Once a day)

Várias vezes por semana (Several times a week)

Uma vez por semana (Once a week)

Menos de uma vez por semana (Less than once a week)

Menos de uma vez por mês (Less than once a month)

Nunca (Never)

Appendix B - Characterisation of the total sample

Table 22 – Academic qualifications of the total sample

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1st Cycle (4th year)	1	.2	.2	.2
	2nd Cycle (5th and 6th year)	1	.2	.2	.3
	3rd Cycle (7th to 9th grade)	4	.7	.7	1.0
	Bachelor's Degree	287	49.1	49.1	55.9
	Master	148	25.4	25.4	75.6
	PhD	7	1.2	1.2	76.8
	Secondary education (10th to 12th year)	135	23.2	23.2	100.0
	Total	583	100.0	100.0	

Table 23 – Net monthly income of the total sample

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Between 1.001€ and 2.000€	205	35.2	35.2	35.2
	Between 2.001€ and 3.000€	34	5.8	5.8	41.0
	Between 3.001€ and 4.000€	11	1.9	1.9	42.9
	Between 4.001€ and 5.000€	5	.9	.9	43.7
	Between 500€ and 1.000€	220	37.7	37.7	81.5
	Less than 500€	32	5.5	5.5	87.0

		Frequency	Percent	Valid Percent	Cumulative Percent
	More than 6.000€	3	.5	.5	87.5
	No income	73	12.5	12.5	100.0
	Total	583	100.0	100.0	

Table 24 – Frequency of Facebook use of the total sample

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than once a month	12	2.1	2.1	2.1
	Less than once a week	16	2.7	2.7	4.8
	Never	5	.9	.9	5.7
	Once a day	116	19.9	19.9	25.6
	Once a week	26	4.5	4.5	30.0
	Several times a day	346	59.3	59.3	89.4
	Several times a week	62	10.6	10.6	100.0
	Total	583	100.0	100.0	