

iscte

INSTITUTO
UNIVERSITÁRIO
DE LISBOA

Drivers of Smart Speakers' Advertising Acceptance

Carolina Fiuza Ribeiro

Master in Marketing

Supervisor:
Professor João Guerreiro, Assistant Professor,
ISCTE-IUL Business School

November, 2020

iscte

BUSINESS
SCHOOL

Department of Marketing, Operation and Management

Drivers of Smart Speakers' Advertising Acceptance

Carolina Fiuza Ribeiro

Master in marketing

Supervisor:
Professor João Guerreiro, Assistant Professor
ISCTE-IUL Business School

November, 2020

Acknowledgments

This dissertation results from a personal effort to accomplish one of my most significant academic goals - to finish my master's degree in an area that I believe I want to follow professionally. It has been a challenging year. It has required my time management between work and thesis, which has allowed me to explore and learn more about my interest topics and grow as a person and as a professional. However, none of this would be possible without the support of many people to whom I would like to say Thank You.

First, to Professor João Guerreiro to guide me in developing this project and manage my timings, which was undoubtedly my greatest challenge. His availability, commitment, advice, and know-how were essential to make it possible to finish this dissertation and make it a unique learning experience.

For their unconditional help and support, my family and boyfriend always let me choose my path and never let me give up even when the tiredness overcame the desire to reach the end.

To my Gallo team, who never saw the dissertation's development as an obstacle to my professionalism. For always having encouraged me to believe in myself.

To my friends and colleagues, who accompanied me and shared this journey with me, with whom I could always count, with whom I could always share questions and doubts, and who always motivated me.

To ISCTE and all the people who crossed paths with me in this institution's last six years, I considered my second home.

Moreover, finally, all the people who spent their time answering the questionnaire contributed in a crucial way to this study.

Resumo

O impacto crescente da tecnologia nas comunicações de marketing é inevitável, é por isso que as marcas precisam de alcançar a visão destas novas tecnologias, que se estão a tornar nos novos canais de comunicação e de compra, a fim de se aproximarem do consumidor.

A Inteligência Artificial e conseqüentemente os assistentes de voz inteligentes estão a tornar-se uma das maiores tendências na área do marketing, trazendo benefícios não só para as marcas como também para os consumidores. Assim, este estudo explora quais os fatores que terão impacto na aceitação em receber publicidade através destes dispositivos.

O objeto de investigação deste estudo centra-se nas respostas de 329 consumidores portugueses e utiliza uma modelação de equações estruturais baseada em *partial least squares* para realizar um estudo empírico. Os resultados indicam que a aceitação do canal tem um impacto significativo na aceitação da publicidade por parte dos consumidores, bem como as motivações hedónicas. Contudo, demonstra que o valor e a confiança percebida relativa à publicidade, não têm um impacto significativo na sua aceitação.

O estudo sugere que os assistentes de voz inteligentes devem trazer benefícios aos seus utilizadores e devem-lhes ser adicionadas funções que permitam a interação com o que está a ser anunciado. Além disso, o conteúdo que as marcas pretendem anunciar deve ser relevante e conter informação relacionada com os interesses dos utilizadores, de forma a gerar sentimentos positivos nos consumidores e conseqüentemente levar a que a sua predisposição para aceitar publicidade seja mais elevada.

Palavras-chave: comunicação de marketing; aceitação da publicidade; inteligência artificial; assistentes de voz inteligentes; canais de comunicação.

JEL Sistema de Classificação: M31 Marketing; L82 Entretenimento, Media

Abstract

The growing impact of technology on marketing communications is inevitable. That is why brands need to achieve the vision of these new technologies, which are becoming the new channels of communication and purchasing, to get closer to the consumer.

Artificial Intelligence and, consequently, smart speakers are becoming one of the major trends in marketing, bringing benefits not only for brands but also for consumers. Thus, this study explores what factors may impact the acceptance of receiving advertising through these devices.

This study's objective focuses on 329 Portuguese consumers' responses and uses a partial least square structural equation modelling to conduct an empirical study. The results indicate that the channel's acceptance has a significant impact on consumers' acceptance of advertising and the hedonic motivations. However, it demonstrates that the perceived value and trust of advertising do not significantly impact its acceptance.

The study suggests that smart speakers should benefit their users and have added functions that allow interaction with what is being advertised. Besides, the content that brands want to advertise should be relevant and contain information related to users' interests to generate positive feelings towards the ad, leading to a higher predisposition to accept advertising.

Keywords: marketing communications; advertising acceptance; artificial intelligence; smart speakers; communication channel.

JEL Classification System: M31 Marketing; L82 Entertainment, Media

Table of Contents

1. Introduction	1
2. Literature Review.....	5
2.1. Digital Marketing Communications.....	5
2.1.1. Digital Advertising	8
2.1.2. Digital Communication Tools	10
2.2. Artificial Intelligence in Marketing.....	13
2.2.1. Smart Speakers	15
2.3. Advertising through Smart Speakers.....	18
3. Research Hypothesis and Conceptual Model	21
4. Methodology	29
4.1. Research Approach	29
4.2. Data Collection and Sample	29
4.2.1. Questionnaire Development	29
4.2.2. Data measurement and scales	30
4.2.3. Pre-test	31
4.2.4. Sample	31
5. Results	33
5.1. Measurement Model.....	33
5.2. Structural Model.....	36
5.3. Mediation Analysis	39
6. Discussion.....	43
7. Conclusions	47
7.1. Limitations and Future Research.....	49
References	51
Appendixes.....	63
Appendix A – Survey	63
Appendix B – Pre-test results.....	70
Appendix C – Sample characterization results	71
Appendix D – PLS Algorithm results	76
Appendix E – Bootstrapping results.....	78
Appendix F – PLS Algorithm Indirect effects	81
Appendix G – Bootstrapping Indirect Effects.....	82

List of Tables

Table 1 - Scales authors and number of items	30
Table 2 - Demographic Information.....	32
Table 3 - Reliability and validity test for the complete data	34
Table 4 - Discriminant validity of constructs: Fornell-Larker criteriation analysis.....	35
Table 5 - Discriminant validity of constructs: HTMT ratios	35
Table 6 - Structural Model Results	37
Table 7 - Mediation Analysis Results	41
Table 8 - Reliability test (pre-test)	70
Table 9 - Knowledge frequency	71
Table 10 - Interaction frequency	71
Table 11 - Ownership frequency	71
Table 12 - Gender frequency	71
Table 13 - Age frequency	72
Table 14 - Education frequency	72
Table 15 - Professional Situation frequency	72
Table 16 - Gender independent sample t-test.....	73
Table 17 - Age ANOVA	74
Table 18 - Education ANOVA.....	74
Table 19 - Professional Situation ANOVA.....	75
Table 20 - Model Fit.....	76
Table 21 - Multicollinearity Statistics (VIF).....	77
Table 22 - Outer Loadings and p-values	78
Table 23 - Path coefficients and p-values	79
Table 24 - Total indirect effects	81
Table 25 - Specific indirect effects	81
Table 26 - Total indirect effects (complete).....	82
Table 27 - Specific indirect effects	82

List of figures

Figure 1 - Proposed research model 28

Figure 2 - Research model with PLS-algorithm and bootstrapping results 36

Figure 3 - Survey (in Portuguese) 63

Figure 4 - Control variables effects 80

1. Introduction

In the present world economy, characterized by being intensely dynamic, mostly due to advances in technology, companies are looking to discover the best way to communicate with their customers and persuade them about the quality and benefits people get from using their products/services. Thus, communication has become a critical part of marketing and generates a competitive advantage for a company (Brunello, 2013).

The impact of technology in our society is undeniable and has caused a change in customer behavior, experiences, and thinking (Tang et al., 2015). By now, 85% of customers' relationships with companies happen without the existence of human contact. Despite being through an online channel, these relationships remain essential for customers who want to develop a connection with the organizations they deal with (Steinhoff et al., 2019).

The spread of digitalization has also had a considerable effect on the media sector (Ley et al., 2014). The reason why companies need to organize and coordinate their communication with the primary goal of ensuring that the message reaches the target audience in a clear, coherent, and uniform way (Kitchen & Burgmann, 2010). By 2022, 56% of traders believe that technology will play as significant a role as creativity in how brands establish themselves and become involved with their customers. Besides, 30% think that the focus should be on technology rather than the creative part (Digital Marketing Conference, 2019).

As marketing budgets grow, the investment in marketing technology advertising is also likely to grow, with digital driving most of this growth (eMarketer, 2019). Total investment in advertising is estimated to reach €507,72 million in 2020. 53.6% of this investment will be generated through digital advertising formats (Statista, 2020a). The investment in the Digital Advertising market is projected to grow by 2.4% and reach €335.96 million in 2020 (eMarketer, 2019). By 2022, this investment is expected to grow around 4.8%, with the internet being the largest advertising channel, accounting for more than 58% of global advertising investment (Statista, 2020a).

In the advertising field, technological innovations and changes have been implemented by brands to reinforce their competitive advantages. One of the technologies that are impacting advertising platforms is Artificial Intelligence (InformationAge, 2018). In general, the overall AI field is predicted to increase by about 54% annually, achieving an approximated size of 19.2 million euros by 2020 and 161.6 million euros by 2025 (Statista, 2020b). Also, artificial intelligence significantly impacts the way brands communicate with consumers and enables

brands to present better, smarter, and more relevant dialogues and experiences. At least 80% of the digital media market is expected to use AI in advertising (Donahue & Hajizadeh, 2019).

With the rise of artificial intelligence, smart speakers like Amazon's Alexa, Google Home, Apple's Siri, and Windows Cortana turn relevant and popular. They are becoming the fastest-growing technology in evolution (Smith, 2020). These devices are the prime use of voice search, a voice recognition technology that enables users to receive answers from the internet through a voice assistant driven by artificial intelligence (Donahue & Hajizadeh, 2019). One reason for the attractiveness of smart speakers is the ease of leading a search via voice. Currently, 20% of Google searches, which include general information and information about products and services, are done through voice commands, and the prediction is that this will grow to 50% by 2020 (Charts, 2017). Smart speakers' success in supporting the search procedure will be reliant on the natural and spontaneous interaction with the personal assistant (Smith, 2020).

Smart speakers enable corporations to be in people's homes, helping to solve problems and making life more comfortable. It is expected that individuals will integrate personal assistants into their lives to the point where they desire a smart speaker in several rooms of their residence. Very soon, 20% of families are projected to have two smart speakers, and a further 5% are predicted to have three. Voice assistants have changed the manner in which individuals consume content, perform activities, look for information, acquire new products, and create connections with brands (McLean & Osei-Frimpong, 2019). According to Forbes (2018), 27% of the entire online community uses voice-based research, at the same time that in-home voice assistants are projected to grow by 1000% by 2018-2023 (Juniper & Research, 2018). These new devices bring new opportunities to marketers, as two in every five people think that voice advertisement is more catchy and less intrusive than traditional ones (Adobe, 2020).

Despite being a new topic, and there is still no chance to advertise on smart speakers, marketers need to understand that these devices turn into new channels for connecting with customers. The challenge is to understand how they can use it to promote brands and the impact of it on the customer relationship with the brand (TechRepublic, 2018). According to Ju et al. (2017), Amazon Echo users will shortly hear advertising when using Alexa features because they are putting ads on it to test how the Alexa users will respond to the advertisements. However, the possibility of advertising through these devices is still a fertile topic that is gaining academic researchers' attention due to the benefits that this can bring to brands and users (VentureBeat, 2019).

Existing research has mainly focused on the one hand, in advertising acceptance through channels like e-mail marketing and SMS advertising (Bakr et al., 2019; Haq, 2009) and on the other hand, on studying the acceptance to use smart speakers as a new indispensable device to shop, to create a relationship and to be present in the daily life (Forbes, 2018). These studies have focused on exploring smart speakers' opportunities to become the new shopping channel and the new influencers in shopping decisions (Mari, 2019; Moriuchi, 2019; Rzepka et al., 2020).

According to studies, consumers' behavior in response to a communication process is influenced by factors related to four main elements: the source, the message, the media channel, and the audience (Fiske, 1982; Jansson-Boyd, 2010). Following this, the purpose of this study is to explore the consumer acceptance as an effect to the process of communication on smart speakers, as a way to assess which are the antecedents of smart speakers advertising acceptance and a way to understand what brands need to do to make consumers accept it.

This research recommends an integrated research model that focuses on exploring that and can be represented in the following research questions:

RQ1: What are the primary motivators and the main barriers to speakers advertising acceptance? Do the consumers need to accept the channel to become more receptive to accept advertising on it?

RQ2: How can brands capitalize on voice assistants as a communication channel and communicate effectively with users to make them accept advertising that came from it?

Even though there are already studies related to the acceptance of advertising on various mediums (Bakr et al., 2019; Parreño et al., 2013) and the acceptance of smart speakers as new technology (Hoy, 2018; McLean & Osei-Frimpong, 2019; Moriuchi, 2019), little is known about the behavior of users regarding receiving advertising using these devices. Previous studies have also studied the effectiveness of interactivity in advertising on different channels (Drossos et al., 2007; Fahmy & Ghoneim, 2016; Pavlou & Stewart, 2000). However, little information exists about the effectiveness of interactivity in advertising when the communication channel is the voice assistants (Adobe, 2020). Moreover, despite the existing literature that provides some insights regarding what types of marketing messages people find acceptable on smart speakers (Smith, 2020), there is not much literature available regarding what factors affect the acceptance of individuals receiving advertising on these devices.

This research intends to contribute to the advertising literature on voice assistants by getting together perspectives from advertising acceptance literature and technology acceptance theories

through developing a conceptual model. This model gets together variables of different studies to understand what factors influence the individuals' acceptance of advertising on smart speakers. Accordingly, this research aims to draw general conclusions regarding the factors that will drive consumers to accept advertising that came from smart speakers, bearing in mind the channel's main characteristics and what has already been studied regarding advertising acceptance in other media channels.

To achieve what is being proposed, this thesis is structured into seven chapters. The first identifies the research topic by describing the problem and its relevance and includes the research purpose and the research questions, and the thesis structure. A further literature review will then be developed to get a deeper understanding of the concepts and factors related to the individual's acceptance of advertising and the impact of the evolution of technology. Specifically, the impact of artificial intelligence and, consequently, smart speakers have in marketing communications. Throughout exploring these topics, the third chapter is about the research hypotheses developed, their explanation, and the presentation and definition of the proposed research model. The fourth chapter covers the research methodology, which includes the research approach, data collection methods, and the structure of the survey. Moreover, this chapter also includes information about the collected sample and the methods used for data measurement and scales. In the fifth and sixth chapters, this study's results will be shown, followed by a discussion of the obtained data and then the assessment of the validity of the research hypothesis, respectively. Lastly, chapter seven will be about the study's main conclusions and implications, ending with the research's potential limitations and recommendations for future research.

2. Literature Review

2.1. Digital Marketing Communications

Communicating, one of the essential activities for the human being and the key element of social relationships. It is a way to share opinions, information, and emotions (Mihart, 2012). Recently, the concept has been rapidly changing with the progressive demand to communicate in all domains. Consequently, marketing communications have become an indispensable aspect of marketing, a corporate perspective, and a determining factor for its success (Shimp & Andrews, 2013).

According to Batra and Keller (2016), marketing communications are the way companies use to provide information, persuade and remember the public about their products or service, their availability, their specific characteristics, functions, and benefits, that distinguish them from other market players. Marketing communications correspond to the image of a brand. If customers can relate a brand to a person, place, experience, or something around them, this can lead to increased brand awareness and, consequently, long-term consumer loyalty (Batra & Keller, 2016). Marketing communication allows marketers to dialogue with consumers, which means developing robust and customer-based brand equity. The effectiveness of marketing communications is affected by different consumer characteristics, related to demographic, behavioral and social characteristics, different characteristics of the communication choice itself, related with nature, the content, creative execution of the message, situational aspects and consumer reaction, related with the results associated with exposure to the communication (Keller, 2003).

Nowadays, the way brands communicate and interact with consumers has dramatically changed due to technology's evolution. We live in a digital transformation to secure brands' competitive advantages by employing digital technologies to adapt to the business environment changes (Lee & Cho, 2020).

Digital marketing is "the use of digital technologies to create an integrated, targeted and measurable communication which helps to acquire and retain customers while building deeper relationships with them" (Wymbs, 2011, p. 94). Companies adopt digital channels to reach the customer, gather information about their preferences, facilitate their behaviors, interactions, and experiences, and promote brands, products, and services (Lamberton & Stephen, 2016). Digital Marketing is a fact of life and is organized in two areas, first for the development of interactivity and transaction among consumers and traders utilizing interactive media skills and secondly by embedding interactive media in the marketing mix (Parsons et al., 1998). The processes enabled

by digital technologies generate value through new experiences of customers and interactions between customers (Kannan & Li, 2017).

Digital applications have considerably influenced marketing communications by opening new channels to communicate to consumers and providing many opportunities to build a reciprocal relationship between brands and consumers, which compels marketers to place the consumer at the focus of its communication efforts (Bormane, 2019). Using digital tools and dialogues with customers, companies can anticipate their future behavior and perform more effective customer retention (Ekhlassi, 2012).

The presence of human interaction can symbolize the relation between customers and companies. However, due to the emergence of technology and online, face-to-face interactions lost relevance and began to be mediated via the Internet (Yadav & Pavlou, 2014), though online relationships can also feel as warm and significant as the ones that happen offline (Mathwick, 2002). Digital engagement represents the online behavior consequential from customer's opinions, emotional connections, and inherent motivation to interact and collaborate with a digital brand (Scheinbaum, 2016).

Furthermore, digital technology also changes the way people consume information and content. Since consumers are becoming more connected and aware, their expectations are becoming higher and, consequently, more sophisticated tools for satisfying their needs are required (Jose, 2017). Consumers desire and expect personalized messages from brands, and marketers should connect with them at the right places at the right times, which involves increased real-time localization (Nageswari, 2019). To do so, brands should always have in mind the person they want to reach, creating personalized content to generate interest for the consumers, reinforcing a relationship with them (Scheinbaum, 2016).

Consequently, digital communication is also creating a change in how companies plan and integrate their communication strategies, combining online and offline environments to attract consumers. Customers are spending more hours online and on digital equipment, so all contacts established with a brand must be related to each other, making them more easily recalled (Csikósová et al., 2014). So, as Purcarea et al. (2015) said, to deliver effective and efficient messages, there must exist an integration of all communication channels into a tactical plan according to the brand's strategy to create a more significant impact on consumers. For brands to establish the right strategy as a whole, they have to be aware of how the various elements of their communication landscape work simultaneously (Csikósová et al., 2014). The journey of changing from traditional to modern devices enabled marketers to reach consumers, connect with them and fulfill their needs, whether online or offline (Jose, 2017).

The main difficulty for marketers in marketing communication is the wide diversity of media options available to sustain brands. Consequently, marketers have to pay attention to the numerous available options and how they have to work together to improve their campaigns (Keller, 2001).

Today, there are many possibilities to communicate online that serve to deliver messages and provide information that matches consumers' interests and habits, leading to a mutual commitment by both sides. While conventional communication channels provide content in certain magazines or television channels, online media allow for a more targeted positioning (Batra & Keller, 2016). Additionally, online communication is much easier to be analyzed by marketing professionals, making it more understandable where and how much they should invest and what they must develop to reach more individuals (Parise et al., 2016).

Keller (2001) states that we have seen a growth in the amount and diversity of media available to marketers for targeting consumers. The author claims that marketing communication has changed due to two fundamental points: the fragmentation of conventional media and the appearance of new, non-conventional media, promotions, and other forms of communicating.

One of the most important indicators of this transformation was the appearance of digital communication tools due to technology's progress and the expansion of the internet. The most significant change associated with these new channels' appearance was how they were used, as users who access the content turned from passive to active players (Cizmeci, 2015).

Thus, the contemporary marketing concept emphasizes having accurate and well-founded information about consumers' demands, motivations, behaviors, and activities. Nowadays, it is practically a consensual idea that marketing's primary goal is to satisfy consumers and not persuade people to purchase what is produced (Brunello, 2013).

These new means of communication allow for greater customization of content by enabling marketers to use various media types to achieve their communication goals. Technological advances and other factors have revolutionized the marketing communication environment and bring new challenges and opportunities to marketers (Batra & Keller, 2016). Organizations must find new ways to be disruptive with these new communication tools to catch their targets' interest. Additionally, marketing communications display very complicated content, both in terms of reach and approaching it. Marketers have a broad spectrum of online and offline channels to communicate. Of all media, there is advertising, a method of marketing communication that is the most visible way for a brand to express itself (Mkhize & Ellis, 2020).

2.1.1. Digital Advertising

Advertising is among the most powerful instrument available in a business' marketing approach. It is a method to provide information and influence the audience to acquire a product or service via visual, oral, or written messages. The purpose of advertising is to build awareness in potential buyers' minds about the brand's presence in the market by using different media channels (Mark, 2017).

Based on the AMA (American Marketing Association) concept, advertising is a marketing communication tool, organized and composed. It is generally financed and aimed at convincing, about products, services, or ideas, through different channels, who propose to develop the notoriety of a particular brand. Disseminate information about a product or service, inform how the public can establish contact with the brand, and encourage the buying, bearing in mind the purpose of developing the brand image (Shaw, 2009).

The advertising campaigns are a fundamental part of advertising since they reflect the thinking, concept, approach, representation, image, or other forms of information that the advertiser seeks to communicate to its target audience. The presentation of an advertising message is exceptionally relevant to establish its efficiency. An ad's performance relies on how an advertiser attracts consumers' attention and persuades their perceptions of the product, service, or concept (Gupta, 2012). According to Kotler (2000), marketers must follow eight phases to elaborate a successful marketing communication plan: (1) determining the target audience, as it is a crucial factor in the advertisers' choices regarding what, how, when, where, and to whom. (2) establishing communication goals. After knowing the target and its perceptions, the company can now decide on the desired audience response - if they want to put something into consumers' minds, change their attitude, or get a consumer to act. (3) Designing the message that should gain attention, hold interest, arouse desire, and elicit action. To do this, marketers have to answer four main questions, what to say in the message content, how to say it in a logical way across the message framework, how to say it in a symbolic manner via the message format, and who must say it by setting the origin of the message; (4) Select communication channel; (5) Establishing the marketing communication budget, which vary according how much companies spend on promotion; (6) Developing and managing the marketing communications mix, where brands decide how to allocate the budget over the promotional tools; (7) Measuring the results of the promotional plan, through the answers of target audience of if they recognize or recall the message, how many times, what they felt regarding the message, the opinion towards the brand, product or service, etc. and finally (8)

Managing the Integrated Marketing Communications, which appears due to the born of new types of media, so brands must create synergies over the channels where they decide to communicate in order to provide clarity, consistency and maximum communications' impact possible.

Independent of how brands placed their ads, the advertisement's success always depends on whether or not the way brands advertise through the media is adequate. The selection of communication means serves to generate the highest reach with the resources at the lowest costs possible. Thus, choosing the right media at the right time and place is essential to accomplish the advertising purposes (Mark, 2017).

As the media change, the marketing communication strategy, including advertising, must also change (Royle & Laing, 2014). As Mulhern (2009, p.86) comments, "the digitization of media represents a phase change in the history of communications," and this rapid change in the media landscape caused by digital transformation has pushed the frontiers and domains of various advertising media (Lee & Cho, 2019). These technological advances allow marketers to reach out and influence consumers in new, exciting, and more effective ways and display their ads to the target audience, producing an efficient use of their advertising budget while improving the users' experience (Deza et al., 2015).

The investigation on consumers' discernment of advertising in a digital environment was carried out by several authors (Daugherty et al., 2008; Harms et al., 2019; Zhang, 2011), which, overall, has shown that it has a significant influence on consumers. Moreover, in Ducoffe and Curlo (2000) study, consumers saw digital advertising as very valuable, enlightening, not uncomfortable, and a benefit for the companies that use it.

Digital Advertising refers to a message of persuasion passed to the audience through interactive technologies in media to promote commercial products or services and enable marketers to deliver an enhanced brand experience (Lee & Cho, 2020). The trend, worldwide, has been to invest more and more in this type of advertising. Prognoses denote that digital ad spending will accomplish 62.6% of total media spending by 2025 due to consumers being always online. It is possible to share content throughout digital devices without modifying its original message (eMarketer, 2020).

Companies can create messages as or more sophisticated through online advertising as in traditional media and more significant numbers. Compared to other media, online advertising presents a greater variety in advertising content, forms of presentation, and interactivity. These different sources of stimulus can elicit different types of responses from the audience - the consumer can either avoid advertising, ask to know more, or look at the ad (Tang et al., 2015).

The most outstanding attribute of digital media is perhaps interactivity (Lombard & Snyder-Duch, 2001). Truong et al., (2010) asserted that increased interaction between advertisers and consumers is essential in advertising through digital media because incorporating interactivity is more successful than those that do not. However, now there is a facility in avoiding ads, due to the tools available, which help analyze and predict consumer behavior, since nowadays most people are not loyal to a brand in any absolute sense, so companies must understand how to prevent this (Lee & Cho, 2020).

Digital advertising brings significant benefits to marketing. First, it is intangible, allowing all content to be delivered online with enormous efficiency, reach, and low investment. Then it is universal since it allows the user to access any information anywhere. Finally, they are fast, innovative, progressive, efficient, and personalized according to each consumer's characteristics, needs, and desires (Dionísio et al., 2009).

Digital media must incorporate conventional online and interactive media to amplify digital advertising's overall connotation, like smart TVs, tablets, smartphones, virtual and augmented reality platforms, in-game advertising, multi-channel networks, and voice assistants. Smart advertising includes efficient advertising practices based on digital technologies like targeted advertising display and delivery of time-sensitive and location-sensitive messages to deliver personalized or adaptive content (Lee & Cho, 2020).

2.1.2. Digital Communication Tools

Marketing communication is a way of describing, on a generic basis, the several types of media used to communicate marketing messages to build a brand. Communication tools are all forms of brand-related communication. Marketing communications covers the diversity of means available for the execution of communications features and a mix of the many communication fields: advertising, sales promotion, events and experiences, public relations, direct marketing, interactive marketing, word-of-mouth marketing, personal sales, customer services, and packaging. (Ekhlassi, 2012).

As customers acquire technological know-how, they become more resistant to content and not relevant messages (Nageswari, 2019). Those who use digital communication tools are not satisfied with merely consuming the transmitted content. They like to actively interact with the content, produce it, share it with others, and give their opinion about it (Steinhoff et al., 2019).

The characteristics of interactivity and mobility of the new communication channels allow innovative ways of connecting with the public by enabling customers to become active content

creators and allowing businesses to use this content any time to engage their target in a dialogue by generating adapted and personalized messages (Lombard & Snyder-Duch, 2001).

Nowadays, marketers face a significant challenge: building content appropriate to the consumer's necessities and delivering customized real-time solutions throughout their buying experience. Nevertheless, several online communication options are available to help deliver messages that match consumers' wishes and behaviors, offering a fully personalized and engaging experience that allows the brand and consumer to interact and exchange valuable information. (Parise et al., 2016).

Consumers are receiving constant information about products and services due to the current multidimensional and omnichannel environment. Brands that are willing to relate to their consumers must offer technical information, provide value, distinguish themselves, and generate a strong relationship with the customer. Technology can help reach consumers effectively and allows consumers to make more informed decisions about what products or services they should purchase, obtain more focused and rewarding offers, and faster services (Grewal et al., 2017).

Consumers turn into more and more omnichannel shoppers across many channels, using physical stores, websites, social platforms, and mobile apps to perform a simple transaction. So, the consumer experience is defined by a combination of multiple points of contact. The way brands are involved with each consumer in delivering immediate, customized, and meaningful content will determine their success (Parise et al., 2016). That is why it has become essential for companies to fulfill each customer's specific needs (Singh & Thirumoorthi, 2019). These digital touchpoints can shift the way consumers connect to the products and services (Parise et al., 2016).

Omnichannel marketing is linked with customized marketing since the marketing messages are fully customized to reach the customer through multiple channels. The key to omnichannel marketing is to deliver to the target audience the most appropriate messages according to their preferences, creating the challenge of following and connecting with them across different touchpoints (Xu, 2016).

Most recently, due to the emergence of new technologies, there has been a significant change in consumer behavior, which has led companies to evolve rapidly to remain relevant in the market. There are two distinct points of view: from the supply side, the emergence of social media, artificial intelligence, big data, IoT, augmented and virtual reality, among others, are opening new possibilities for companies to adapt to reality; from the demand side it has become essential to understand the effect that these technologies have on consumer choices so that

companies can define their marketing strategy, suitable to their values and goals (Singh & Thirumoorthi, 2019).

When a new technology or software appears on the market, a feasible and efficient way to measure its effectiveness is to analyze consumers' acceptance or adoption (Gagnon et al., 2003). The existing literature is replete with papers that have been carried out and used different models designed to explore and comprehend the motivation behind the acceptance/rejection of different technologies (Al-Shbiel & Ahmad, 2016). The most significant model in this domain is the technology acceptance model (TAM) designed by Davis (1989), which constitutes an extension of the theory of reasoned action (TRA) created by Fishbein and Ajzen (1975).

According to the TRA, the attitude impacts consumers' beliefs, which in turn structures the behavior (Fishbein & Ajzen, 1975). The authors point out that people's behavior depends on their attitudes. In other words, if individuals have positive feelings toward a behavior, they have a priority and a strong reason to do that behavior, and probably they will do that.

Therefore, the TAM model states that the individual's approach conditions the willingness to use technology to that particular technology (Saleem, 2013). The outside variables of the model are shown as a group of factors that indirectly are supposed to condition an information system's employment through the perception of ease of use and perceived usefulness (Davis, 1989). In this context, the terms used in TAM are equally measured in all circumstances, and, as a result, the credibility of TAM is highlighted as a practical tool (Taylor & Todd, 1995). Besides, meta-analysis results have also validated TAM's reliability and logic, which justifies up to 40% of the behavioral intention of using (Yousafzai et al., 2007).

However, TAM does not fully take the detailed influences of every technology and user context (Moon & Kim, 2001). Thus, to improve the explanatory skills, further models were developed, amplifying the TAM with different drivers from other models and theories: TAM 2 (Venkatesh & Davis, 2000), Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003), TAM 3 (Venkatesh & Bala, 2008) and UTAUT 2 (Venkatesh et al., 2012). Because every technology has specific features, none of these models is directly applicable to examining each technology and user context's acceptance. Therefore, most acceptance studies use the TAM as a basis and complement it with factors relevant to accepting the specific technology (Kowalczyk, 2018).

These new trends change the way customers choose channels, products, and services and the way they shop. Therefore, brands must adopt these emerging new technologies to engage their customers while simplifying their lives (Grewal et al., 2017).

2.2. Artificial Intelligence in Marketing

Brands are exploiting the potential of artificial intelligence in tailor-made marketing campaigns, allowing a better connection and conversion of customers into consumers (Olson & Levy, 2018). Digital advertising is the most successful domain regarding the introduction of artificial intelligence in businesses (Donahue & Hajizadeh, 2019).

In accordance to Oxford Dictionary, Artificial Intelligence is “the theory and development of computer systems able to perform tasks normally requiring human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages” (“artificial intelligence | Definition of artificial intelligence in English by Oxford Dictionaries,” 2019). Technology that relies on artificial intelligence can reproduce the human being's intellectual functions, namely the problem-solving and learning skills. Artificial intelligence is used to process and detect the data collected and to carry out certain activities. This type of Ai defines Narrow Artificial Intelligence, which is focused on a particular domain (Jarek & Mazurek, 2019). The other type of AI is Artificial General Intelligence, whose rational capacity scope is analogous to the human intellect since all the machines have consciousness, mind, and sense. They are not applied to a specific area (Sterne, 2017). According to Jarek and Mazurek (2019, p. 47) “the current potential of AI works in a narrow area, and tasks are performed thank to the advancement of three technologies: machine learning, deep learning, and natural language processing.”

Artificial intelligence devices have been reshaping the way marketers comprehend and predict the behavior, needs, and preferences of consumers to provide them with the experiences they wish for (Vesanen & Raulas, 2006) since these devices can be able to make choices for themselves (Sujata et al., 2019). That is why marketers are already benefiting from the advantages of AI, allowing them to acquire valuable knowledge about shoppers, competition, and markets (Kaličanin et al., 2019).

For marketers, artificial intelligence provides excellent advantages for the innovative integration of people and machines (Rust & Huang, 2014). With applications on the customer experience, particularly in the age of big data, where a huge quantity of data is created every second in distinct formats. Without AI could not be visualized the data's value in real-time (Kaličanin et al., 2019). With high expectations of having a more personalized experience from customers, artificial intelligence has provided valuable knowledge on how to find the right consumers, engage with them and perform more accurate return on investment analysis

(Campbell et al., 2020), giving companies the power of decision-making skills (Sujata et al., 2019).

The most popular AI applications in marketing are *content creation*, that helps generate content for brands' websites, products, or services by processing amounts of data and content; it can generate human-like content that helps engage users, *voice search* and *speech recognition*, that is used on the design of voices assistants, *predictiveness analysis* of consumer behavior, by using large amounts of data, *lead scoring*, based on specific criteria to help sales teams to establish priorities, *ad targeting*, which runs enormous amounts of data to establish which advertisements work better in each person, at each stage of the buying experience, which price dynamics should be employed to prevent ongoing discounts, addressing special offers exclusively at the right times and for the ones that require conversion into consumers (Faggella, 2019). With such AI solutions, marketers can examine their customers based on their behaviors to perform a micro-segmentation and forecast their future behaviors. Using this kind of information, marketers can focus on their customers' specific needs and establish a long-term relationship with them (Kaličanin et al., 2019).

In the advertising and media sectors, companies are increasingly interested in applying AI in their businesses. A market study in Europe reveals that 80% of media professionals agreed that artificial intelligence has a significant impact on the industry (Shields, 2018). AI can turn media, content, public activities into faster and better interactions. To serve the audiences as individuals, media companies must understand audience sentiments/preferences toward content and characters, assess resonance, and promptly align content with audience preferences. To accomplish this, media companies must acquire insights from large datasets and act on it in real-time (Chan-Olmsted, 2019). Gentzkow (2015) concluded that the primary influence of AI is on the demand side and not on the communication channels' supply side. Since content is adapted to consumers, cognitive technologies provide a better combination of content, optimizing its management, and expanding content delivery.

Moreover, the AI can diagnose content that the public believes is relevant, in real-time, to offer tailored content and a superior shopping involvement. It not only supports in creating competitive advantages but also helps media companies to pinpoint new business opportunities (Chan-Olmsted, 2019).

As the Internet has provided numerous advantages for the consumer, for example, automatic recommendations and relevant suggestions about products, more comfortable, faster shopping, and more personalized customer service, all of which reflects a new consumption experience, and thus an innovative consumer-brand relationship (Grewal et al., 2017). AI

extends and provides new possibilities for marketing, such as removing complex and time-consuming tasks by automating routine tasks, giving greater importance to creative and strategic assignments, conducting more detailed analysis to discover innovative solutions. These possibilities allow the developing of new skills for the marketing team and creating a new marketing atmosphere with the progress of Narrow Artificial Intelligence (Jarek & Mazurek, 2019).

Business responses based on this technology take advantage of the five main advantages of AI: image recognition, text recognition, decision making, voice recognition, which are considered as Narrow AI, and they are taught to perform a particular assignment and have an extensive application in marketing and, finally, robots and autonomous vehicles, which are regarded as general AI, meaning that the goal is the creation of a machine that thinks like the human being, which will be the next remarkable technological evolution (Pridmore, 2017)

The AI in marketing is being applied at a functional level because it is the first demonstration of its application in daily life. Companies are being careful in using this new technology (Olson & Levy, 2018).

The consequence of the most recent advances in artificial intelligence are beginning to become a reality, and the devices powered by this technology are slowly becoming part of households and working places (Rinko, 2018). One example of that is the arising of speech recognition applications developed by the biggest tech companies such as Amazon, Google, Apple, or Microsoft (Jarek & Mazurek, 2019). These companies create the so-called virtual assistants or smart speakers, like Apple Siri, Google Assistant, Microsoft Cortana, Amazon Alexa (Mari, 2019).

2.2.1. Smart Speakers

A smart speaker or virtual assistant can be defined as conversational agents that can interpret human dialogue (Hoy, 2018) and perform tasks to an individual and own the ability to self-improve their understanding of the interlocutor and context (Mari, 2019). This software, embodied in smart objects, uses AI skills such as automatic speech recognition, text-to-speech synthesis, and natural language understanding to communicate with individuals (Gaikwad et al., 2010) naturally. These devices can be called different names like AI speaker, AI assistant, voice assistant, intelligent personal assistant, personal digital assistant, voice-controlled smart assistant, intelligent voice-activated assistant, and conversational agent (Mari, 2019).

Virtual assistants are powered by artificial intelligence and are trained in natural language processing, which gives them the ability to perform various complicated tasks, understand instructions, and provide results in a fluent way (Sujata et al., 2019). These devices have changed the behavior of individuals when consuming information, accomplishing tasks, gathering information, shopping for products, and how companies interact with consumers by providing information, entertainment, utility, and convenience (McLean & Osei-frimpong, 2019). They also influence the way users perform day-to-day tasks such as checking the calendar, interacting with other applications to play music or read the news, finding reference places when near one, having a spontaneous conversation, among others (Sujata et al., 2019). Each assistant has its unique characteristics, but the basic features are the same. Given the latest advances in natural language processing, voice assistants have been creating meaningful answers in a fast way, as more online texts have been analyzed to instruct them to listen and respond to users' requests in a more natural and significant way (Hoy, 2018).

The most well-known voice assistants are Alexa from Amazon, Siri from Apple, Cortana from Microsoft, and Google's Google Assistant. These devices are embedded in smartphones, pc or specific home speakers called voice-controlled virtual assistant devices, like Amazon Echo, Apple iPhone, and more recently, the Apple HomePod, Windows PC, or Google Home speaker (Jones, 2018). With the remarkable development of speech technology, many people are now interacting with voice-based assistants as a part of the daily routine, as they would interact with other humans (Sundar et al., 2017). The inclusion of voice assistants into mobile devices has offered individuals the possibility to interact with artificial intelligence in a beneficial and meaningful way (Guzman, 2019).

Smart speakers are always on and activate themselves after listening to the trigger words, like *Okay Google* or *Hey Alexa*, to initiate their functions. Then the device records the user's voice and is ready to interact with its user to supply the appropriate information to the user. Smart speakers are supported by natural language processing and machine learning to understand and translate the user's speech to give real-time replies (Hoy, 2018). Thus, because of the complexity of processing this technology, voice assistants can conduct a more sophisticated dialogue with an individual and carry out specific requests from the users (McLean & Osei-Frimpong, 2019).

Due to their characteristics, these gadgets can be viewed as a threat to the user's privacy, particularly when they are placed in households' privacy. However, they warn the user about what is being stored and how the collected information will be used. Large companies

responsible for creating these devices, like Amazon, Apple, Google, and Microsoft, argue that their devices do not record without users saying the word that wakes up the assistant. Nevertheless, despite all the preventive measures taken by these companies, there is the possibility of stealing data since everybody with access to the device can make questions, pick up information about the bills and services associated with the device, and request it to execute tasks (Lau et al., 2018). Nevertheless, when the user authorizes virtual assistants, they can gather several data to be aware of who the user is, the user's preferences, location, and what is doing, to predict what the user wishes (Kaličanin et al., 2019).

The voice touchpoint is rapidly becoming a central point in academic, business, and industry research due to its fast adoption and innovative potential in purchasing dynamics (Dawar & Bendle, 2018). Given its multidisciplinary nature, research on voice assistants is significantly fragmented due to its contributions in several areas (Knote et al., 2018). Recent studies have provided knowledge about the functional characteristics of voice assistants (Hoy, 2018), about their adoption and their role in society (Purington et al., 2017; Schweitzer et al., 2019), on attitudes towards technology (Brill et al., 2019; Moriuchi, 2019), and its applications in marketing (Kumar et al., 2019). Due to the latest technology evolution regarding natural language processing and voice recognition, smart speakers have become the new channel for brands to interact with their customers (Mari, 2019).

Voice commerce, which allows customers to buy through voice assistants, is among companies' main objectives. The increase in this equipment's adoption rate enables them to reach an increasingly wider audience of consumers through this new channel. An intelligent voice assistant to make purchases may become the easiest way to buy, mainly because smart speakers can naturally make verbal recommendations and provide descriptions of products and services (Rzepka et al., 2020).

Given the considerable potential of these products, it is essential to understand the digital customer experience and the factors influencing the acceptance and use of smart speakers. The TAM, as mentioned before, is one of the most influential and considered theories for describing and predicting an individual's technology acceptance (King & He, 2006), since it stresses that the motivation to use technology can be explained by an individual's attitudes towards this technology (Davis, 1989).

Since voice assistants offer a different way of interacting, generally by voice, as the user interaction increases, more the assistant learns and becomes more intelligent and personal,

providing the user exactly what he asks for, giving the user a suitable way to deal with the technology (Guzman, 2019). These devices allow consumers to make better and smarter choices, and allow marketers, despite the fact that they demand the work of understanding consumer information, to supply content that is more suited to each consumer (Jones, 2018). Brands must embrace the vision and be part of this new technology that can reshape the purchasing process and make brand awareness possible for personal assistants to meet the user's needs and wishes (TechRepublic, 2018).

2.3. Advertising through Smart Speakers

Unlike existing media, media based on the voice interface have been developing. Smart speakers allow users to interact with them via a voice interface. With the emergence of these devices, many shifts have occurred, especially in marketing. While traditional advertisements were one-way and product-oriented, smart speaker advertising will be done in a two-way and context-based format. Interactivity becomes even more critical with the high penetration of these devices (Ju et al., 2017).

The voice interface is not commonly used due to a lack of computational competencies and a low recognition level for voice data treatment. However, speech recognition precision is growing from 95% to 99% (Chen & Hsieh, 2012). Voice is a new model in human-computer interaction and people's primary communication tool (Ju et al., 2017). The voice interface is affecting the way companies are communicating. Additionally, customized, context-based messages are allowed, as the voice-based interface features the ability to easily communicate based on previous interactions (Aeschlimann et al., 2020).

The smart speaker architecture is distinct from conventional media. The most specific feature is the power of users to interact and communicate with the intelligent voice assistant. This interactivity with the smart speakers as a media channel allows users to be immersed in the context and feel that they are conversing with one person because they provide two-way communication (Kim et al., 2018).

Smart Speakers are growing and becoming an advertising platform with promising perspectives. When an advertiser places its ad on a smart speaker, users are expected to interact with it. Research has studied the effectiveness of advertising interactivity in many different media (Drossos et al., 2007; Fahmy & Ghoneim, 2016; Pavlou & Stewart, 2000). However, little is known about interactive advertising's effectiveness on smart speakers (Adobe, 2020).

According to Kim et al. (2018), when the smart speaker users interact with the commercials from the device, the effectiveness is higher compared with the traditional ones since it enables users to control what information will be delivered to them, in what order, and for how long (Lombard & Snyder-Duch, 2001). So, the control over the information flow affects consumers' ability to integrate, remember, and understand the inputs from advertisements (Ariely, 2000). Further, advertisers think that the effectiveness of advertising reduces when the public is aware of the advertising. The recognition of an advertising message can help consumers better understand the selling intent and persuasion (Ju et al., 2017).

Despite all this, advertisements that play an essential role in selling products are currently excluded from smart speakers (Krauth, 2018). Only some content may use audio advertisements, but it should be intended explicitly for promotions or when they request them. Hence, advertising through voice speakers has to be an attractive component. All smart speakers, including Amazon Echo, rarely advertise during use. One reason is the impossibility of controlling the advertising content, an essential feature on these devices (Kim et al., 2018).

Various investigations have been conducted to provide insights into what conditions and factors the device must have that the user believes is a plus when talking about advertising through smart speakers (McCaffrey et al., 2018). In one study, most smart speaker owners alleged they are agreeable to hear advertising on their devices. Nevertheless, they must have some control over what is being advertised, and the ad must be integrated into their overall experience (Marketing Charts, 2017).

As with radio, marketing messages on smart speakers can come directly from the broadcaster, i.e., personal assistant. If the listener perceives the broadcaster with a human sound and as a trusted source, the message becomes more significant and seems less intrusive (Herbert, 1988). Marketing messages might be more palatable coming from a personal assistant if the voice was adapted to different dialects and accents (Smith, 2020).

According to McCaffrey et al. (2018) study, smart speaker owners look for marketing messages resulting from their online searches. Smart speakers only can offer this kind of advertising since smart speakers' ultimate goal is to provide personalized solutions to help consumers in their everyday lives. Smith (2020) also concluded, on the one hand, that in terms of functionality, the listener wants to have some control over receiving information, so it is essential that the device's software enables the possibility to skip the messages. Part of the reason advertising is tolerated on smartphones and computers is that most ads can be skipped,

so it must be a feature on smart speakers as if advertising is to be accepted. On the other hand, the listener may be interested in the content of the message and, consequently, want to have the option to repeat it or request detailed information such as promotions, availability, and location of the product.

Along with this, users want to know how the product will improve their lives or benefit them (Bond, 2017). Smart speaker advertisements' fundamental requirement is to deliver valuable content to the listener, and this should also be a fundamental principle for smart speaker advertising to prevent undesired promotional campaigns (Smith, 2020). To make this happen, when a user repeatedly asks for a favorite song, product, or type of service, the user is training the personal assistant. By learning the user's preferences, the personal assistant is developing context about the user, which will enable the personal assistant to tailor database knowledge to fit conversations and advertising for the user (Aksu et al., 2018).

While there are no apparent commercials on smart speakers yet, subtle marketing messages are already taking place. These kinds of ads are the beginning of an innovative type of interaction between brands and consumers. So brands need to catch the vision of this new technology, to create relevant content and experiences when and where consumers have a need (Smith, 2020) and conversations that add value and are enjoyable to engage with the user (Jones, 2018). With the potential for using smart speakers to promote brands, the purpose of this study is to determine what factors will influence people to accept advertising on smart speakers.

3. Research Hypothesis and Conceptual Model

This study aims to measure consumer acceptance to receive advertising through smart speakers in addition to smart speaker services. This communication channel involves interactions between brands and users.

As a theoretical notion, acceptance refers to a person's consent with the reality of a particular situation, without the need to change it (Venkatesh et al., 2012). Applying the definition of advertising acceptance of Hanley and Becker (2006) to this study, smart speakers' advertising acceptance refers to consumers' willingness to receive advertising from a smart speaker. It measures the intent to receive marketing or promotional offers through intelligent voice assistants. Next, it will present the proposed mediating factors and antecedents included in the conceptual model and the description of their expected effects.

First of all, channel acceptance is seen as a condition to generate a positive attitude towards advertising. Stafford and Day (1995) studied the effect of advertising channels on ad acceptance within the background of traditional advertising, where the connection between the media channels and ad acceptance was significant (Bakr et al., 2019). To test channel acceptance, the Technology Acceptance Model was used. This model predicts the Information Technology acceptance and usage, recurring to the original constructs: Perceived Ease of Use and Perceived Usefulness, and applying to the communication channel – Smart Speakers.

Smart Speakers Perceived Ease of Use

Davis (1989, p. 320) defines the perceived ease of use as "the degree to which a person believes that using and dealing with a particular system would be free from effort." Often, users are desirous of adopting technologies that are easy to use, operate, interact with, and control (Shbiel & Ahmad, 2016). According to the original TAM, the perceived ease of use is a key element that influences the perceived usefulness of a technological device (Kim et al., 2017) favorably.

In the case of Smart Speakers, ease of use is the expectation of the level of effort the user is required to put into use the device and means that it is easy to operate and interact with this product. One reason for adopting a smart speaker is the easy way of conducting a search via voice and the simplicity of using voice commands to accomplish tasks (Adapa et al., 2018). Brill et al. (2019) stated that users' satisfaction increases with smart speakers' capacity to fulfill their expectations. So, the following hypotheses are proposed:

H₁: Perceived ease of use of smart speakers will have a positive impact on the perceived usefulness of smart speakers;

Smart Speaker Perceived Usefulness

The idea of perceived utility has been extensively developed in the scope of TAM. It represents the degree that individuals believe that the use of a specific technology would contribute to improving the performance of the process, the velocity, and quality of its execution, as well as to the availability of essential information for the realization of the current process or future activities (Davis, 1989). As Lee (2009) states, a consumer's acceptance and intention to use a specific aspect, feature, or service is related to the perceived benefit and usefulness that the consumer gets.

Artificial Intelligence technologies, like smart speakers, are predicted to reach an improved adoption rate since they contribute meaningfully to the consumer's daily activities(Gao & Bai, 2014)(Gao & Bai, 2014)(Gao & Bai, 2014)(Gao & Bai, 2014)(Gao and Bai 2014)(Gao & Bai, 2014)(Gao & Bai, 2014)[129](Gao & Bai, 2014)(Gao & Bai, 2014)(Gao & Bai, 2014)(Gao & Bai, 2014), like help users to perform numerous tasks at the same time only by using voice and through connection to other devices (Gao & Bai, 2014).

According to Wu and Wang (2005), the perceived usefulness of a technology device resulted in a favorable attitude from consumers towards the device and consequently influenced the acceptance. If consumers perceive that the specific device provides them with relevant information, then their attitude and acceptability towards that device and technology increases. As smart speakers are designed to be personal assistants, in this model, perceived usefulness denotes the level to which an individual feels that the use of a smart speaker would increase the performance in day-to-day life (Kowalczyk, 2018). Additionally, perceived usefulness is considered one of the critical factors influencing smart speakers' users to receive advertising (Davis, 1989; Lee, 2009). Therefore, we propose:

H₂: Perceived usefulness of smart speakers will positively impact users' acceptance of smart speakers' advertising.

Perceived Ad Functionality

In the case of the functionality of advertising on smart speakers, it can be defined as the smart speakers' operations when presenting advertising to the user. In other words, it stands for how the device operates when displaying information and allows the user to easily use the device and get information more quickly (Smith, 2020).

Heinonen and Strandvik (2007) believe that channels should be adjusted based on consumers' reactions and understanding of communication effects. In one study, several smart speakers' users state that they are ready to receive advertising on their devices, but only with the possibility of choosing what is advertised, if the content can be reviewed, and if the ad is integrated into the experience of using a smart speaker. Suggesting that for consumers, a communication channel with different functionalities and gives them the possibility to interact with the ad generates more value to their experience when receiving advertising on that channel (Smith, 2020). According to all these, it can be posited that:

H3: Perceived Functionality of advertising will have a positive impact on the perceived usefulness of Smart Speakers;

H4: Perceived Functionality of advertising will have a positive impact on the perceived value of advertising.

Perceived Ad Format

The format can be defined as the way something is prepared or displayed. Advertising format can be seen as how advertising is passed to the consumers. Merisavo et al. (2007) highlight that any device's capability to deliver advertising by location-based, timely, and personalized messages influences consumers' acceptance to receive advertising and determines consumer acceptance of advertising. Hence, Heinonen and Strandvik (2007) argue that consumers' willingness to receive and answer to advertisements can be considered a role of the campaign's content and context.

According to Muk (2007), the relationship between advertisement messages and perceived value plays an essential role in users' acceptance of it. The main requirement to introduce advertising in smart speakers is to offer value to the public (Smith, 2020). Several kinds of

research (Bakr et al., 2019; Oh & Xu, 2003; Rajala & Westerlund, 2010) hypothesized that there is a positive relationship between the content of the ad and the perceived value of the ad, and consequently a positive effect on the behavioral intentions to receive advertising.

Moreover, Carroll et al. (2008) alleged that the audience's content is essential to accepting marketing messages. The consumers' perception of the advertisement must be related to their needs and benefit them (Rajala & Westerlund, 2010). Thus, it can be hypothesized:

H₅: Perceived format of advertising will have a positive impact on hedonic motivations;

H₆: Perceived format of advertising will have a positive impact on the perceived value of advertising.

Perceived Ad Relevance

Advertising relevance can be defined as the degree to which advertising is considered pertinent, meaningful, useful, valuable, and related to the user's needs and interests (Smith et al., 2007). There are three dimensions for relevance, i.e., interest in the product category, interest in the message objective, and the advertised product's affordability (Bakr et al., 2019).

According to Ducoffe (1996), the more meaningful the advertisements are, the more valuable they will be, which means that the more relevant the advertising perceived by users, the higher the hedonic motivations to receive advertising through these devices. High relevance is only possible when using trustworthy information on consumers (Bakr et al., 2019). Additionally, message relevance also affects the perceived value of the ad. Salois and Reilly (2014) agree that advertisements' relevance is a fundamental characteristic in constructing perceived value. It is a critical element of the perception of advertising for being a significant component in all areas of human communication (Zeng et al., 2017).

Moreover, previous literature suggests that, within the context that people are less careful in their functional demands, the advertising message's actuality is the most influential factor in determining the evaluation of people's relevance (Khasawneh & Shuhaiber, 2013). Consumers like and prefer to receive ads that have more relevance to their needs and wants to get the best experience when receiving the ad (Smith, 2020). Hedonic Motivations is the experience and feel that the audience gets from the advertisement (Bauer & Greyser, 1968). The more relevant the advertisements, the better the consumer experience (Barwise & Strong, 2002). Therefore, the following is hypothesized:

H₇: Ad relevance will have a positive impact on hedonic motivations;

H₈: Ad relevance will have a positive impact on perceived value.

Informativeness

Informativeness outlines “the ability of advertising to inform consumers of product alternatives so that purchases yielding the greatest possible satisfaction can be made” (Ducoffe, 1996, p.22). Advertising plays a significant role in delivering information, and informativeness can be viewed as advertising to do that to customers to satisfy their needs (Lau et al., 2015).

Accordingly, Leppäniemi and Karjaluoto (2005) suggested that information is an important motivation that stimulates recipients to respond positively to advertising messages. Oh and Xu (2003) found out that the advertising message is recognized as valuable if its content delivers some benefit to the audience.

The informative aspect of advertising is a fundamental factor in the public's acceptance since it represents the commercials' capability to deliver updated, relevant, and easy-to-access information to the audience (Ünal et al., 2011). Ducoffe (1996) emphasized that consumers want to receive messages with information. Content informativeness is critical in determining its value and fundamental in the advertisements' effectiveness. Therefore, the following is hypothesized:

H₉: Informativeness will have a positive impact on perceived value.

Perceived Ad Trust

Moorman et al. (1992, p.315) define trust as “the willingness to depend on an exchange partner in whom one has confidence” and allows the expression of an expectation about the future behavior of a person (Roca et al., 2009). Its relevance is visible in successful and efficient relationships and businesses, ensuring relationships in the long term (Moorman et al., 1992).

Consumers choose to reduce risks to a minimum rather than maximizing their usability. According to Bauer et al. (2005), the consumers' subjective perception of risk can influence their behavior decisively. The authors also suggest that, in the market context, trust should be understood as comprising two main components. Trust in the brand and trust in advertising, since both impact the users' acceptance of advertising. Consumers are expected to accept the advertisement only when they perceive either the channel and the message as honest and non-deceptive (VanEsch et al., 2018). So, and according to Soh et al. (2009, p. 86), Ad Trust can be

defined as the consumer's "confidence that advertising is a reliable source of product/service information and willingness to act based on information conveyed by advertising."

H₁₀: Informativeness will have a positive impact on ad trust;

Bakr et al. (2019) report a positive correlation between trust and advertising acceptance. The importance of trust in receiving advertising on a virtual assistant is vital, where face-to-face interactions are very limited or nonexistent (McKnight et al., 2002). Based on the findings, the following hypothesis is suggested:

H₁₁: Perceived trust will have a positive impact on users' acceptance of smart speakers' advertising.

Hedonic Motivation

Hedonic motivation refers to the individual's affective experiences, such as satisfaction and entertainment acquired through interaction or by using a different technology, as smart speakers (McLean & Osei-Frimpong, 2019). Hedonic value refers to the esthetic, pleasurable, and hedonic benefits advertising can provide to consumers (Liu et al., 2019).

Advertisement can be considered a source of pleasure and entertainment (Pollay & Mittal, 1993). As Bauer and Greyser (1968) research states, hedonic motivations are advertisements' experiences. The hedonic value of advertisements can control, provide, and restrict consumers' responses to the advertisement. Consumers enjoy seeing advertisements that have more entertainment and pleasurable features. Thus, being enjoyable and entertaining helps attract and maintain attention, especially if they are related to customers' needs and wants (Ling et al., 2010).

Following several studies (Munusamy & Wong, 2007; Petrovici et al., 2007; Pollay & Mittal, 1993; Ramapattract, 2001), the maintained hedonic motivations, the more positively the target audience reacts to advertising. For the extent of this research, it will be suggesting that hedonic motivations will be one of the factors that will influence the acceptance of advertising from Smart Speakers (Bauer et al., 2005). Thus, it can be hypothesized:

H₁₂: Hedonic Motivations will have a positive impact on users' acceptance of smart speakers' advertising.

Perceived Ad Value

The value can be established based on behaviors, acts, and appreciations in advertising and all other social life elements (Beatty et al., 1985) and may emerge from experiences and expectations. Therefore, the value reflects the worth of something and the respective experience (Houston & Gassenheimer, 1987).

Advertising value is a relevant antecedent of consumer acceptance of advertising. It can be seen to measure advertising effectiveness and evaluate consumer response regarding the brand's messages. As Ducoffe (1995, p. 1) said, it is "a subjective evaluation of the relative worth or utility of advertising to consumers." Existing literature suggests that consumers see advertising's capacity to create valuable content as one of the main reasons for its acceptance (Bauer & Greyser, 1968).

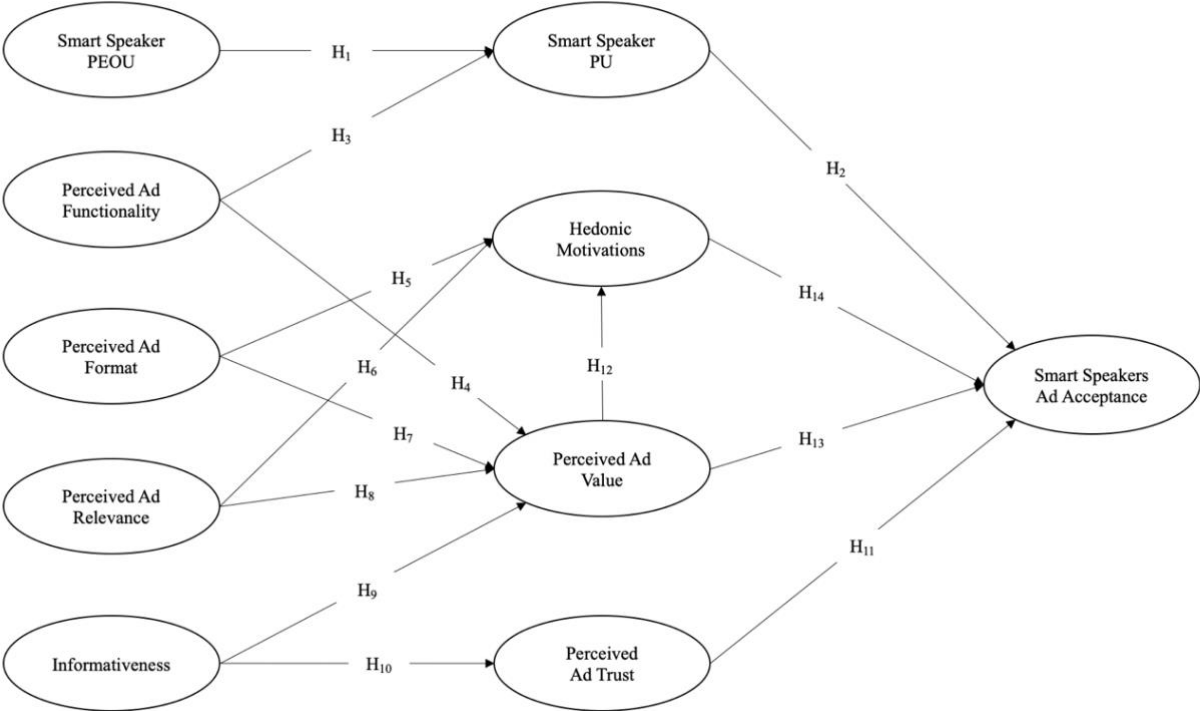
Researches on perceived value have revealed that it enhances consumers' attitudes and behavior towards services or products (Gallarza & Saura, 2006). These researches indicate that the greater the perceived value of the advertising for the users, the more positive their opinion about it is (Zeng et al., 2009).

Consumer acceptance of advertising occurs when the advertising message's perceived value fulfills consumers' information, entertainment, and social needs (Ducoffe, 1996). According to Saleem (2013), clients' acceptance and comprehension are more important for the ads relevant to their interests or that they can connect with, meaning that it has value to them. Advertising value has been identified as a key motivation for consumer acceptance of advertising because, like any goods and services, advertising must offer value to consumers (Ducoffe, 1996). These outcomes suggest that the value of publicity positively impacts consumers' acceptance of advertising (Bauer et al., 2005).

H₁₃: Perceived value of advertising will positively impact users' acceptance of smart speakers' advertising.

According to the information above and the proposed hypothesis, the following research model (Figure 1) was developed:

Figure 1 - Proposed research model



This model aims to illustrate the variables that suggest influencing consumer acceptance to receive advertising from Smart Speakers, focusing on channel acceptance, consumer trust in advertising, advertising value, and all the factors that influence advertising acceptance.

4. Methodology

4.1. Research Approach

This research aims to outline and take general conclusions by testing the proposed hypothesis based on the literature. Accordingly, quantitative research will be conducted since it allows gathering information from a larger sample, measuring data, generalize results, reveal patterns, and help in decision-making (Malhotra et al., 2016). Subsequently, as the item of study in this research is the consumer and its behavior intentions to accept, the questionnaire method was selected to test the proposed hypotheses.

In this research, several questions are made, followed by several tested scales, to check consumers' acceptance to received advertising, with a focus on smart speakers, as the communication channel.

4.2. Data Collection and Sample

4.2.1. Questionnaire Development

An online survey (appendix A – figure 3) was projected, and the data compiled in Qualtrics Survey Software. Since this analysis purposes understanding the consumer's acceptance of advertising on smart speakers, the survey was conducted in Portuguese and posted on different social media platforms.

The questionnaire was divided into three parts: channel, message, and audience profile. The first part of the questionnaire starts by explaining what a smart speaker is and then to collect information to understand the level of acceptance of the technology that will be the advertising medium – Smart Speaker.

The second part of the survey was conducted to understand what factors people give more importance when the subject is advertising, the perception that the inquires have towards advertising, and to understand not only what features the channel should have, but also the characteristics that consumers believe advertising should have, to increase their acceptance to receive advertising.

Finally, the last part of the survey is focused on collecting data about the consumer profile. This part is essential for gathering information and demographics that can influence options and behaviors, like user experience, gender, age, and education, used as variables for control purposes.

4.2.2. Data measurement and scales

The survey questions were developed based on scales found in the literature to measure each model variable. The table underneath (table 1) shows the number of items of each scale and associates each variable with its respective scale's author.

Table 1 - Scales authors and number of items

Variable	Scale's Author	Nº of items
Perceived Ease of Use	Venkatesh et al. (2012)	4
Perceived Usefulness	Venkatesh et al., (2012)	4
Perceived Functionality of Advertising	Smith (2020)	12
Perceived Format of Advertising	Smith (2020)	7
Perceived Relevance of Advertising	Bakr et al. (2019)	6
Informativeness	Bakr et al. (2019)	6
Hedonic Motivation	McLean and Osei-Frimpong (2019)	3
Perceived Value of Advertising	Ducoffe (1996)	6
Perceived Trust of Advertising	Bakr et al. (2019)	5
Advertising Acceptance	Parreño et al. (2013)	3

All the above scales' items were measured according to a 7-point Likert scale from 1 – Strongly disagree to 7 – Strongly agree.

The questions about user experience and the questions on the consumer's age, gender, level of education, and professional situation were used as control variables. Regarding the demographic variables, gender was measured between "female" and "male." Age was measured and divided into seven groups ("1" to "7" represents less than 18, 18-24, 25-34, 35-44, 45-54, 55-64, more than 65, respectively). Education was measured and divided into six groups ("1" to "6" denotes Basic Education, High School Degree, Bachelor's Degree, Post-Graduation, Master's Degree, Doctoral Degree, respectively). Finally, Professional Situation was measured and divided into five groups ("1" to "5" means Student, Student-Worker, Employed, Unemployed, Retired, respectively)

All the data collected was imported to SmartPLS 3 to test the model using partial least square structural equation modelling (PLS-SEM). PLS-SEM allows a more suitable causal-predictive analysis between all constructs in a relatively complex model (Hair et al., 2012).

4.2.3. *Pre-test*

After designing the questionnaire, a pilot test was conducted to evaluate if the survey required any adjustments or changes before being realized. Some ideas were not well explained if there were doubts about any question or topic and redundant questions or variables. Likewise, it was important to be sure that the chosen questions were suitable for this research's purposes.

Concerning the scales used in the pre-test, their reliability and consistency were tested by measuring the Cronbach's α values, which confirmed that all scales had adequate internal consistency levels (appendix B – table 8), with all the values higher than .70 (Hair et al., 2017).

This preliminary test was made with 23 individuals, and only some suggestions regarding phrase constructions were made, but the respondents pointed out no doubts/critics.

4.2.4. *Sample*

This study's research object focuses on Portuguese people, independently of being or not users/owners of smart speakers. In this research, a suitability sample was used, and links to the online questionnaire were published on several digital channels, like Facebook, Instagram, LinkedIn, WhatsApp groups, using convenience sampling.

It was registered a total of 407 respondents, with 329 valid answers, which results in an effective response rate of 80.8%. Of the valid answers, 63.2% of the respondents were women, and 36.8% percent, were men. More demographic information on the inquirers is presented in table 2 (and on appendix C – table 12, 13, 14, 15)

The user knowledge and experience regarding smart speakers are also measured using three questions, all through a scale with two items, 1 - no and 2 – yes, for all the questions (appendix C – table 9, 10, 11). In general, respondents are aware of these devices since 78.4% said that they know what a smart speaker is, 65.9% have already interacted with one. However, only 35.5% are owners of these devices. Besides, none of these factors significantly differ with gender, age, education, or professional situation (appendix C – table 16, 17, 18, 19).

Table 2 - Demographic Information

N = 329	Demographic	%
Gender	Female	63.2%
	Male	36.8%
Age	<18	1.2%
	18-24	30.1%
	25-34	20.7%
	35-44	15.2%
	45-54	21%
	55-64	11.6%
	>65	0.3%
Education	Basic Education	0.3%
	High School Degree	32.5%
	Bachelor's Degree	36.8%
	Post-Graduation	6.4%
	Master's Degree	23.1%
	Doctoral Degree	0.9%
Professional Situation	Student	21.6%
	Student-Worker	11.2%
	Employed	63.2%
	Unemployed	2.1%
	Retire	1.8%

5. Results

To test the proposed model, the results' analysis was made using a partial least square structural equation modelling (PLS-SEM) with SmartPLS 3. This research assesses the research model in two steps: the outer model (measurement model) and the inner model (structural model) (Henseler et al., 2016). To test the hypotheses, bootstrapping re-sampling with 500 samples was used.

5.1. Measurement Model

To evaluate the outer model, this study considers four features: internal consistency reliability, composite reliability, convergent validity, and discriminant validity. Detailed results are presented in tables 3, 4, and 5.

To start, the consistency reliability must be tested. Following Vinzi et al. (2010), this will respond to all the items' internal consistency. To measure reliability, it is necessary to look at the following indicators: Item Loading, Cronbach's alpha, and Composite Reliability to meet the signature requirements (table 3).

To check the internal consistency reliability, the Cronbach Alpha must be higher than .70, which is verified, fluctuating between .838 and .958. Then, to evaluate the composite reliability, the outer loadings must be all equal or above .70 (Hair et al., 2017). Some of the outer loadings were removed from the scale since they were lower than .70, which led to an increase in the composite reliability and average variance. Cronbach's alpha and the Composite Reliability of the construct are both above the recommended level of .70, indicating that the model is internally reliable (Hair et al., 2012).

For convergent validity, applying the same principle as used for individual indicators, the average variance extracted (AVE) from all the constructs was also higher than .50, implying that "on average, the construct explains more than half of the variance of its indicators" (Hair et al., 2013, p. 115)

Table 3 - Reliability and validity test for the complete data

Constructs	Items	Outer Loadings	Cronbach's α	CR	AVE
Advertising Acceptance	ACC1	.951	.958	.973	.923
	ACC2	.968			
	ACC3	.963			
Hedonic Motivation	HM1	.905	.910	.944	.848
	HM2	.948			
	HM3	.909			
Informativeness	INFO1	.911	.930	.950	.827
	INFO2	.915			
	INFO3	.888			
	INFO4	.923			
Perceived Ad Format	FORMAT1	.741	.931	.942	.618
	FORMAT2	.728			
	FORMAT3	.764			
	FORMAT4	.767			
	FORMAT5	.795			
	FORMAT6	.811			
	FORMAT7	.751			
	FORMAT8	.809			
	FORMAT9	.827			
	FORMAT10	.860			
Perceived Ad Functionality	FUNC1	.718	.891	.915	.607
	FUNC2	.826			
	FUNC3	.856			
	FUNC4	.811			
	FUNC5	.735			
	FUNC6	.768			
	FUNC7	.727			
Perceived Ad Relevance	REL1	.795	.861	.906	.706
	REL2	.852			
	REL3	.866			
	REL4	.846			
Perceived Ad Trust	TRUST1	.923	.947	.962	.864
	TRUST2	.955			
	TRUST3	.940			
	TRUST4	.899			
Perceived Ad Value	VALUE1	.740	.838	.886	.608
	VALUE2	.821			
	VALUE3	.881			
Perceived SS Ease of Use	SSPEOU1	.826	.856	.899	.690
	SSPEOU2	.807			
	SSPEOU3	.835			
	SSPEOU4	.853			
Perceived SS Usefulness	SSPU1	.859	.904	.933	.776
	SSPU2	.886			
	SSPU3	.899			
	SSPU4	.879			

Table 4 - Discriminant validity of constructs: Fornell-Larcker criterion analysis

	ACC	FORMAT	FUNC	INFO	REL	TRUST	VALUE	HM	SSPEOU	SSPU
ACC	.961									
FORMAT	.603	.786								
FUNC	.475	.721	.779							
INFO	.108	.284	.281	.909						
REL	.588	.700	.683	.331	.840					
TRUST	.068	.223	.249	.722	.292	.929				
VALUE	.296	.365	.343	.628	.430	.579	.816			
HM	.834	.630	.490	.172	.588	.122	.346	.921		
SSPEOU	.354	.354	.310	.117	.325	.106	.111	.389	.831	
SSPU	.503	.486	.412	.086	.416	.026	.202	.504	.478	.881

Table 5 - Discriminant validity of constructs: HTMT ratios

	ACC	FORMAT	FUNC	INFO	REL	TRUST	VALUE	HM	SSPEOU	SSPU
ACC										
FORMAT	.633									
FUNC	.508	.795								
INFO	.114	.302	.308							
REL	.643	.782	.787	.369						
TRUST	.070	.238	.273	.764	.325					
VALUE	.355	.435	.414	.740	.536	.679				
HM	.892	.677	.536	.186	.658	.129	.427			
SSPEOU	.359	.375	.344	.136	.372	.127	.141	.412		
SSPU	.539	.526	.453	.094	.473	.052	.248	.555	.505	

To establish discriminant validity, following the Fornell-Larcker criterion, the square root of AVE of each construct must be superior to its higher correlation with any other construct (Henseler et al., 2016), which is valid for this study (table 4). These criteria can also be seen through Heterotrait-Monotrait (HTMT) ratio criterion (Henseler et al., 2016), where all the ratios must be lower than .90 (table 5). In this research, the ratios are all below .90, indicating satisfactory discriminant validity (Henseler et al., 2016).

Additionally, this research uses variance inflation factors (VIFs) to see the multicollinearity in the indicators. The VIF value to be considered acceptable must be lower than 10 for a lower conservative model (Hair et al., 2017). In this model, the VIF values are all below 10 (appendix

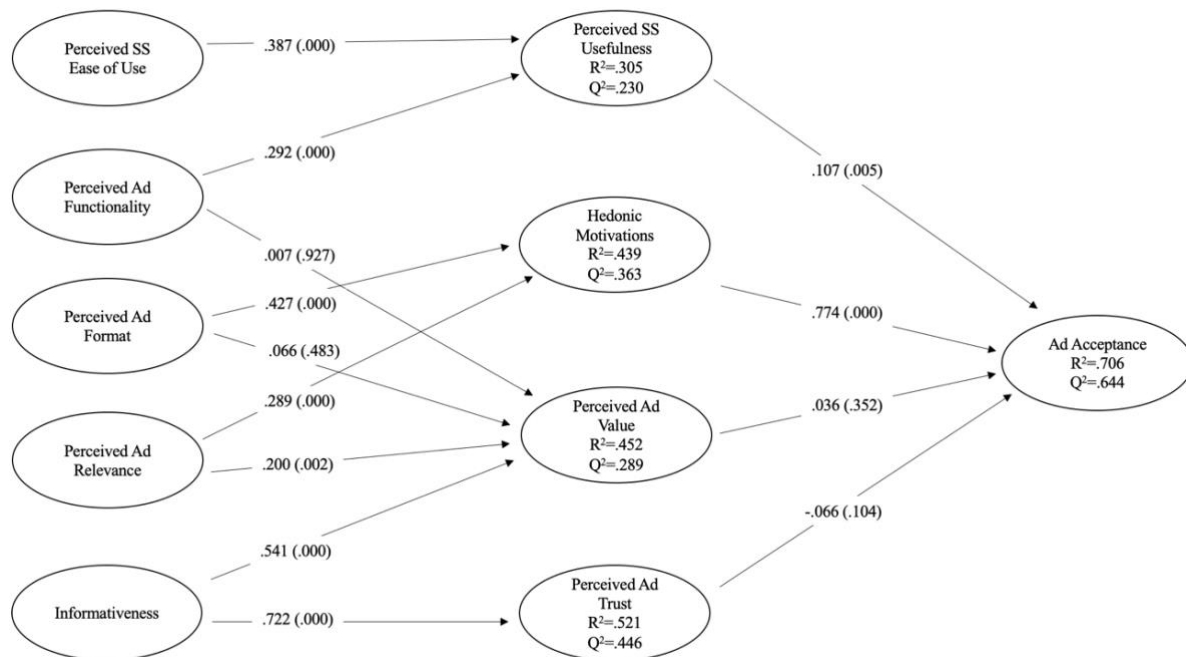
D – table 21), oscillating from 1.664 to 7.379. These values indicate that there is no concern for potential multicollinearity.

5.2. Structural Model

The analysis of the structural model fit reveals that the presented model fits the data well, with SRMR equals .071 (appendix D – table 20), which indicates an acceptable fit model (Henseler et al., 2016)

The structural model evaluations examine the R^2 estimates, Stone-Geisser's Q^2 , effect size (f^2), t-values, path coefficients (β), and p-values detailed in both figure 2 and table 6.

Figure 2 - Research model with PLS-algorithm and bootstrapping results



Note: The values out of the parentheses correspond to the path coefficients. P-values are in the parentheses.

Looking at the values, it can be seen that the model predicts 30.5% of the variance Smart Speakers Perceived Usefulness, 45.2% of the variance of Perceived Ad Value, 43.9% of the variance of Hedonic Motivation, 52.1% of the variance of Perceived Ad Trust and 70.6% of the variance in Ad Acceptance, which implies moderate predictions for all (Henseler et al., 2009), which are all above the values that Chin (1998) considered as being ideal.

Table 6 - Structural Model Results

	Proposed effect	Path coefficients	f2	Results
SSPEOU → SSPU	Positive	.387	.195	H ₁ : Supported
SSPU → ACC	Positive	.107	.029	H ₂ : Supported
FUNC → SSPU	Positive	.292	.111	H ₃ : Supported
FUNC → VALUE	Positive	.007	.000	H ₄ : Not Supported
FORMAT → HM	Positive	.427	.166	H ₅ : Supported
FORMAT → VALUE	Positive	.066	.003	H ₆ : Not Supported
REL → HM	Positive	.289	.076	H ₇ : Supported
REL → VALUE	Positive	.200	.032	H ₈ : Supported
INFO → VALUE	Positive	.541	.472	H ₉ : Supported
INFO → TRUST	Positive	.722	1.087	H ₁₀ : Supported
TRUST → ACC	Negative	-.066	.006	H ₁₁ : Not Supported
HM → ACC	Positive	.774	1.387	H ₁₂ : Supported
VALUE → ACC	Positive	.036	.003	H ₁₃ : Not Supported

Variance Explained: SSPU ($R^2=.305$), VALUE ($R^2=.452$), HM ($R^2=.439$), TRUST ($R^2=.521$), ACC ($R^2=.706$)

Predictive Validity: SSPU ($Q^2=.230$), VALUE ($Q^2=.289$), HM ($Q^2=.363$), TRUST ($Q^2=.446$), ACC ($Q^2=.644$)

Note: SSPEOU = Perceived Smart Speaker Ease of Use; SSPU = Perceived Smart Speaker Usefulness; ACC = Ad Acceptance; FUNC = Perceived Ad Functionality; VALUE = Perceived Ad Value; FORMAT = Perceived Ad Format; REL = Perceived Ad Relevance; HM = Hedonic Motivations; INFO = Informativeness; TRUST = Perceived Ad Trust

Similarly, another factor that evaluates the structural model is the model's ability to predict. To do so, the primary measure of predictive relevance, Stone-Geisser's Q^2 , must be taken into account. In this case, all of the dependent variables have a Q^2 -value above zero, which confirms the model's predictive validity (Henseler et al., 2009).

To assess the regression weights' significance, the t-values must also be evaluated (appendix E - table 22, 23). Once we carry out the bootstrapping analysis using a t-test of two tails of a 5% significance level, the trail coefficient will only be considered significant if the t-value is higher than 1.96 (Wong, 2013). The table 23 show that the paths between FUNC and VALUE (t-value = .092), FORMAT and VALUE (t-value = .702), VALUE and ACC (t-value = .932) and TRUST and ACC (t-value = 1.629), are not significant enough. The rest of the paths, as concluded above, are considered significant with a t-value higher than 1.96 at a significance level of 5%.

Looking at path coefficients (table 6, figure 2), in order to assess the significance and to test the proposed hypothesis, almost all of the proposed paths are statistically significant ($p < \alpha$,

with $\alpha = .05$), with exception for the constructs of the effect from Perceived Ad Functionality in Perceived Ad Value ($\beta = .007, p = .927$), from Perceived Ad Format in Perceived Ad Value ($\beta = .066, p = .483$), from Perceived Ad Value in Ad Acceptance ($\beta = .036, p = .352$) and from Perceived Ad Trust and Ad Acceptance ($\beta = -.066, p = .104$). Generally, the analysis supports all of the hypotheses, excluding H₄, H₆, H₁₁, and H₁₃. Furthermore, as can be seen in Figure 4 (appendix E), none of the considered control variables revealed to be statistically significant.

Hypothesis 1 and 3 proposed that both Smart Speaker Perceived Ease of Use and Perceived Ad Functionality would have a significant and positive effect on Smart Speaker Perceived Usefulness. With a p-value of .000, for both, these two hypotheses are statistically significant. However, only the effect of SSPEOU on SSPU is considered a meaningful impact since it is higher than .15 ($f^2 = .195$); thus, it is only considered a medium effect. The same does not happen between FUNC and SSPU, where the effect size is smaller than .15 ($f^2 = .111$).

Concerning hypotheses 5 and 7, that proposed that Perceived Ad Format and Perceived Ad Relevance would significantly affect Hedonic Motivation. These hypotheses also have a p-value of .000, which means that both hypotheses are supported. However, only the effect between FORMAT and HM can be considered a meaningful medium effect since f^2 is equal to .166, and the other effect is lower .15.

Hypothesis 10, which proposed that Informativeness has a significant positive effect on Perceived Trust, is supported because the p-value also equals .000. Additionally, this effect is considered a statistically significant and meaningful effect as the effect size is more prominent than .15 and has a large effect since f^2 is higher than .35 ($f^2 = 1.087$).

About the hypothesis that reflects effects on VALUE (H₄, H₆, H₈, and H₉), it was proposed that Perceived Ad Functionality, Perceived Ad Format, Perceived Ad Relevance, and Informativeness would have a significant positive effect on Perceived Ad Value. However, hypothesis 4 (FUNC \rightarrow VALUE) is rejected since Perceived Ad Functionalities does not significantly influence Perceived Ad Value ($\beta = .007, p = .927$), contrary to what was predicted. Furthermore, concerning the effect of Perceived Ad Format in Perceived Ad Value, hypothesis 6 (FORMAT \rightarrow VALUE) is also rejected ($\beta = .066, p = .483$). For these two effects, it was also checked the effect sizes. Though, neither FUNC nor FORMAT has a meaningful effect on VALUE since both effect sizes' values are lower than 0.1. In opposite, hypotheses 8 and 9 are considered statistically significant, though only the effect of INFO on VALUE is considered a large, meaningful effect ($f^2=.472$).

Regarding the hypotheses that suggest effects on Ad Acceptance (H_2 , H_{11} , H_{12} , H_{13}), that suggest that Smart Speakers Perceived Usefulness, Perceived Ad Trust, Hedonic Motivation and Perceived Ad Value has a significant positive effect on Ad Acceptance, only the hypotheses 2 (SSPU \rightarrow ACC) and 12 (HM \rightarrow ACC) are supported with a p-value lower than .05. Still, only the effect represented by hypothesis 12 is considered meaningful with an effect size of 1.387, which indicates that the latent variable has a larger effect size. Moreover, hypothesis 11 shows the effect of Perceived Ad Trust on Ad Acceptance is rejected ($\beta = -.066$, p-value = .104), which means that TRUST does not have a significant effect on ACC. This relationship's effect size is smaller than .02, meaning that the effect is not meaningful (table 6). Concerning hypothesis 13, it was also rejected ($\beta = .036$, p = .352), meaning that VALUE does not have a significant impact on ACC. Additionally, there is no meaningful effect since the effect size is also smaller than .02.

Having in mind these deductions, it is essential to strengthening this research's purpose and relevance regarding the need to evaluate and find applicable mediators for these relationships. This way, a mediation analysis was conducted to understand what variables fully or partially mediate this relationship.

5.3. Mediation Analysis

The study Cepeda-Carrion et al. (2017) was followed for the mediation analysis to conduct this research. According to the author, “the core characteristic of a mediating effect (i.e., indirect effect or mediation) is that it involves a third variable that plays an intermediate role in the relationship between the independent and dependent variables” (Cepeda-Carrion et al., 2017, p. 175). The objective of running this analysis is to understand if there are indirect effects on Ad Acceptance mediated.

First of all, running a PLS Algorithm and looking at the total indirect effects (appendix F - table 24) shows only indirect effects on Ad Acceptance. More specifically, there are indirect effects between FORMAT, FUNC, INFO, REL, and SSPEOU and ACC. However, looking only at the total indirect effects, this does not show the mediation path, so the specific indirect effects must be analyzed (appendix F – table 25) to see the bulk of the effect is going through, as can be seen in table 7, where the mediation between FORMAT and ACC can be made between by VALUE and/or HM, the mediation between FUNC and VALUE by VALUE and/or SSPU, the mediation between INFO and VALUE made by TRUST and/or VALUE, the

mediation between REL and ACC by VALUE and HM and finally the mediation between SSPEOU and ACC can be made only by SSPU.

After this, it is important to understand the significance of indirect effects by running a bootstrap analysis. In line with what is mentioned above, if we look only to the total indirect effects (appendix G – table 26), it can be seen that the indirect effects of FORMAT ($\beta = .333$, $p\text{-value} = .000$), FUNC ($\beta = .031$, $p\text{-value} = .019$), REL ($\beta = .231$, $p\text{-value} = .000$), and SSPEOU ($\beta = .041$, $p\text{-value} = .005$), on ACC are statistically significant indirect effects meaning that exists mediation between these variables and Ad Acceptance, only the indirect effect of INFO on ACC is not significant ($\beta = -.017$, $p\text{-value} = .377$). However, to get more detailed information about these mediation effects, we must look at specific indirect effects that demonstrate the mediation and understand which constructs work as mediators (appendix G – table 27).

As mentioned above, there is no indirect effect between Informativeness and Ad Acceptance, which means that neither Perceived Ad Trust ($\beta = -.036$, $p\text{-value} = .138$) nor Perceived Ad Value ($\beta = .019$, $p\text{-value} = .415$) work as mediators of this relationship, and this indicates that we cannot have confidence that these indirect effects are different from zero.

Looking at the indirect effect between Perceived Ad Format and Ad Acceptance, it can be seen that there only exists mediation when the mediator is Hedonic Motivation ($\beta = .331$, $p\text{-value} = .000$) since the $p\text{-value}$ of this indirect effect mediated by Perceived Ad Value is considered non-significant ($\beta = .002$, $p\text{-value} = .665$).

Concerning the indirect effect of Perceived Ad Functionality and Ad Acceptance, similarly to what happened with the effect mentioned above, the mediation through Perceived Ad Value is considered non-significant ($\beta = .000$, $p\text{-value} = .946$), which means that this indirect effect is mediated by the Smart Speakers Perceived Usefulness ($\beta = .031$, $p\text{-value} = .016$). Additionally, Smart Speakers Perceived Usefulness can also be considered as a mediator of the indirect effect of Smart Speakers Perceived Ease of Use and Ad Acceptance ($\beta = .041$, $p\text{-value} = .005$).

Lastly, the indirect effect between Perceived Ad Relevance and Ad Acceptance is also mediated only by Hedonic Motivation ($\beta = .224$, $p\text{-value} = .000$) and not by Perceived Ad Value ($\beta = .007$, $p\text{-value} = .439$).

Regarding the results, in a general way, it can be seen that VALUE and TRUST are not mediators of the presented indirect effect. On the opposite, the HM and REL are the only mediators since the indirect effects mediated by them are considered significant.

According to (Cepeda-Carrion et al., 2017) study, the results also demonstrate that the confidence interval of almost all of the indirect effects does not contain zero, which suggests that the mediation is evident. However, those that do not have a significant mediation effect have a negative confidence interval at 2.5% of significance.

After analyzing which indirect effects are significant, it is necessary to identify the type of effect and mediation. There is a mediation effect when the indirect effect is significant; however, it could be a full mediation or a partial mediation. Full mediation occurs when the direct effect is not considered significant, but the indirect effect is, so the indirect effect occurs via mediation. There are only partial mediations in this research, as both direct and indirect effects are considered significant (Cepeda-Carrion et al., 2017).

Table 7 - Mediation Analysis Results

Effect	Indirect Effects	CI Indirect		P Values	Results
		2.5%	97.5%		
(1) INFO → TRUST → ACC	-.036	-.083	.012	.138	No Mediation
(2) FORMAT → VALUE → ACC	.002	-.006	.015	.665	No Mediation
(3) FUNC → VALUE → ACC	.000	-.006	.009	.946	No Mediation
(4) INFO → VALUE → ACC	.019	-.025	.061	.415	No Mediation
(5) REL → VALUE → ACC	.007	-.008	.027	.439	No Mediation
(6) FORMAT → HM → ACC	.331	.224	.428	.000	Partial Mediation
(7) REL → HM → ACC	.224	.112	.338	.000	Partial Mediation
(8) FUNC → SSPU → ACC	.031	.010	.060	.016	Partial Mediation
(9) SSPEOU → SSPU → ACC	.041	.016	.074	.005	Partial Mediation

6. Discussion

The proposed research model suggested four main factors that directly impact Ad Acceptance as Smart Speakers Perceived Usefulness, Perceived Ad Trust, Hedonic Motivations, Perceived Ad Value. These four constructs are significantly impacted by several antecedents like Smart Speakers Perceived Ease of Use, Perceived Ad Functionality, Perceived Ad Format, Perceived Ad Relevance, and Informativeness.

According to Bakr et al. (2019), channel acceptance is considered necessary in influencing Ad Acceptance. Perceived ease of use and perceived usefulness were used to test if consumers need to accept the communication channel, in this case, smart speakers, to accept received advertising on these devices. Hypothesis 1, which represents the effect of SSPEOU on SSPU, was tested and considered statistically significant and a meaningful effect, supporting the basis of the Technology Acceptance Model (Davis, 1989). Moreover, it is crucial to understand if the consumers' perception of the utility of smart speakers is a relevant factor towards advertising acceptance, for that, the hypothesis 2 that reflects that Smart Speaker Perceived Usefulness has a significant positive impact on Ad Acceptance is created and after running a bootstrap analysis is concluded that this hypothesis is supported, addressing what has already been said by Lee (2009) that defends that for consumers to accept a specific aspect they must perceive some benefit and utility for them.

Furthermore, according to the literature, individuals are open up to receive advertising on their virtual assistants, however, under the conditions of having control over what is being advertised, like the possibility of skipping the ad, saving the ad, or even sharing the ad and only if the ad is connected to the experience of using a smart speaker (Smith, 2020). To test it was created two different hypotheses, one (H₃) that reflect that Perceived Ad Functionality would have a positive impact on Smart Speaker Perceived Usefulness since it suggests functionalities of the channel and other (H₄) that reflect that Perceived Ad Functionality would have a positive impact on Perceived Ad Value. This second hypothesis came fortified the study of Smith (2020), which defends that interacting with advertising will generate more value to the user experience. However, according to the results, only hypothesis 3 can be considered significant. By having different functionalities, the device would deliver more benefits and utility to the device and consequently increase Ad Acceptance, which can be justified through a significant indirect effect. On the opposite, hypothesis 4 is not supported, which means the functionalities of the channel does not add value to the advertising, which is in line with some existing studies, which argue on the one hand that Ad Functionalities only affect factors related to the channel

(Kowalczyk, 2018; Park et al., 2017) and on the other hand that they have a direct effect on the acceptance of advertising (Liu et al., 2019).

After analyzing the factors that are part of the channel and their impact on ad acceptance, it was investigated which factors influence the Ad Value. It was already said that hypothesis 4 that reflects the effect $FUNC \rightarrow VALUE$, was not considered significant, but there are three more hypotheses. The first one said that the Perceived Ad Format that refers to the content of the advertising message has a significant positive effect on Ad Acceptance (H_6), a second one reflects the effect of Perceived Ad Relevance on Ad Acceptance (H_8), and the third one that shows the effect of Informativeness on Ad Acceptance (H_9). From these three hypotheses, only H_6 ($FORMAT \rightarrow VALUE$) is not considered significant, contrary to the studies reflected in the literature (Bakr et al., 2019; Oh & Xu, 2003; Rajala & Westerlund, 2010). Nevertheless, some literature considers that Ad Format has a direct impact on Ad Acceptance, instead of an indirect effect mediated by Ad Value (Dix et al., 2017; Khasawneh & Shuhaiber, 2013; Mohammadbagher et al., 2016). Conversely, Perceived Ad Format seems to have a significant positive effect on Hedonic Motivations (H_5), which can be defined as the positive emotions experienced. Hedonic benefits feel by individuals, like pleasure, fun, and entertainment (McLean & Osei-frimpong, 2019), this happens because the content of the message fits the consumers' desires, which will trigger positive feelings and bring benefits to the consumers and subsequently increase ad acceptance, which can be seen through the indirect effect.

Meanwhile, H_8 is considered supported, taking into account the definition of Smith et al. (2007) of Ad Relevance that advertising must be perceived as pertinent, meaningful, useful, valuable, and related to user's needs and interests. If this happens, the perceived value of advertising will increase, as supported by Salois and Reilly (2014). The definition of ad relevance also justifies the significance of another hypothesis under test, H_7 , that reflect the effect of Perceived Ad Relevance on Hedonic Motivations, which make sense, since if advertising is perceived by being meaningful and related to user's needs, this will generate benefits and positive emotions for them and consequently have a positive influence in advertising acceptance, which is supported by the existence of a significant indirect effect. Once the hypothesis 5 and 7 are considered significant, also the hypothesis that reflect the effect of Hedonic Motivation on Ad Acceptance (H_{12}) was analyzed and considered not only statistically significant but also a meaningful effect with higher effect size, which support the findings of the research referred over the literature (Bauer et al., 2005; Munusamy & Wong, 2007; Petrovici et al., 2007; Pollay & Mittal, 1993; Ramaprasad, 2001).

Regarding H_9 mentioned above, it is also considered supported, meaning that Informativeness has a significant positive effect on Perceived Ad Value. Since Informativeness can be seen as the capability of advertising to deliver updated, timely, and easily accessible information and one of the prominent roles of advertising, if brands can do generate advertising with the correct information, in the right place at the right time, consumers will perceive that as valuable to them, as mentioned by Ducoffe (1996). Furthermore, Informativeness is perceived as also having a positive effect on Perceived Ad Trust (H_{10}), since if individuals feel that the advertisement contain credible and reliable information, this will increase their confidence in the ad, since Ad Trust is defined as the consumers' perception of advertising as a reliable source of information (Soh et al., 2009).

Likewise, both Perceived Ad Trust (H_{11}) and Perceived Ad Value (H_{13}) are proposed to have a significant positive effect in Ad Acceptance, according to the literature (Bauer et al., 2005; McKnight et al., 2002). However, given the study results, both hypotheses are not supported, meaning there is no significant effect of Ad Trust and Ad Value on Ad Acceptance. Regarding VALUE, several research types do not consider this factor as an antecedent of Ad Acceptance (Merisavo et al., 2007; Mohammadbagher et al., 2016; Parreño et al., 2013; Ünal et al., 2011). In hypothesis 11, the literature that believes that TRUST impacts Ad Acceptance does not always refer to Ad Trust. Some believe that is Customer Trust that refers to the individual confidence in exchange his or her interests (Merisavo et al., 2007; Mohammadbagher et al., 2016), others believe that the audience must trust in the advertiser and not in the advertising itself (Rajala & Westerlund, 2010) and some studies do not consider TRUST as an element to influence advertising acceptance (Haq, 2009).

Completing the analysis of the results, it is essential to reflect on the impact of this model. The model performed exceptionally well on Ad Acceptance, with an explained variance of 70.6%, which means that the conclusions withdrawn from it are appropriate and can deliver detailed insight on the market.

7. Conclusions

This research explored which factors influence advertising acceptance, focusing on smart speakers as the communication channel. Through the design of an integrated conceptual model and with the collection of 329 surveys from Portuguese consumers, it was possible to understand that there are three main factors drive individuals to accept advertising on these devices: the communication channel, the content of advertising, and the feelings that advertising develops on consumers.

The spread of technology has had a considerable impact on the media sector, which has driven digital advertising growth and will make the internet the largest advertising channel (Ley et al., 2014). These changes in the advertising sector are a consequence of developing new technologies like intelligent voice assistant, which are starting to become relevant and famous and have already been considered the fastest spreading technology in history, mainly due to their ease of use (Smith, 2020). Despite smart speakers being a new technology and there is no possibility to use them as an advertising channel yet. Existing literature points towards the fact that advertising on a smart speaker is still a possibility under development. The companies that create and work to improve these devices are already analyzing this possibility (Ju et al., 2017). However, marketers need to start looking at these devices as new channels to shop, advertise, and search for information. As Mclean and Osei-frimpong (2019) mentioned, people are looking forward to integrating them into their lives, considering them a device as essential as smartphones.

Existing research regarding advertising has mainly focused on advertising acceptance through other channels (Bakr et al., 2019; Ling et al., 2010; Malkanthie, 2018; Merisavo et al., 2007; Muk, 2007; Rajala & Westerlund, 2010) and the research regarding the technology under study is considered one of the trends for the next few years (Brill et al., 2019; Hoy, 2018; Jones, 2018; Kowalczyk, 2018; McLean & Osei-Frimpong, 2019; Moriuchi, 2019). Even though voice assistants are relatively recent technology, they are already becoming a part of the daily lives of people who use them. Consequently, making users want to build a relationship with the device to the point where they use them to make essential decisions (Steinhoff et al., 2019). Existing marketing research has paid attention to exploring the opportunity of voice assistants to become the new shopping channel and the new influencers in shopping decisions (Mari, 2019; Moriuchi, 2019; Rzepka et al., 2020). That is why it is so important to explore the possibilities for brands to become active through this channel and understand how they can communicate effectively with users, to turn them into consumers - a recent topic that is not

entirely explored at the moment but is gaining massive attention from brands and investigators (Aeschlimann et al., 2020; Aksu et al., 2018; Ju et al., 2017; Kim et al., 2018; McCaffrey et al., 2018; Smith, 2020).

The main goal of this study was to analyze what are the main drivers of smart speakers advertising acceptance and understand what should brand do to capitalize on these devices, to deliver an effective and efficient message that will make users accept advertising that came from smart speakers, having in mind the characteristics of the device. The study results show that consumers must accept the communication channel to accept advertising from that channel. So, the device must be perceived as easy to use and be useful to the user. Additionally, it was concluded that if the device has functionalities that allow individuals to control what is advertised, this will increase the possibility to accept advertising. It was also possible to conclude that it is crucial to deliver the appropriate content for driving advertising acceptance, which must be related to the audience's needs and desires. If the brands can achieve this, they add relevance to the consumers, which is also an important antecedent from advertising acceptance. However, these two factors only positively impact the mediation of Hedonic Motivations, which is related to the sentiments and benefits that the consumer perceived from the ad. Although results show that Ad Trust and Ad Value did not have an impact in advertising acceptance, some studies (Bakr et al., 2019; Gallarza & Saura, 2006; Gao & Bai, 2014) reach the conclusion that is worthy of generating ad value and the that people must trust in advertising, to make the audience accept what is being advertised.

With a few existing pieces of literature, this study contributes to it by exploring and giving new insights about the antecedents of advertising acceptance on smart speakers and how consumers will react to this new communication channel. Moreover, it provides insights by getting together elements from advertising acceptance models and using, as a baseline to test the channel acceptance, the Technology Acceptance Model, in a new technology trend - smart speakers.

Besides, there was a need to search and explain concepts that already exist and apply them to the study, which enabled creating an integrated model representing the impacts that the factors under study will have on Advertising Acceptance. Despite the existence of studies that analyze what kind of marketing messages individuals find acceptable to hear on smart speakers (Smith, 2020), that try to understand whether advertising on smart speakers will be or not useful (Ju et al., 2017) and what will be the impact of advertising on smart speakers on memory precision (Kim et al., 2018), by now, there is not a conceptual model that is drawn to understand

what will be the drivers for smart speakers advertising acceptance, as happened, for example, for mobile marketing (Bakr et al., 2019; Muk, 2007; Ünal et al., 2011) and e-mail marketing (Haq, 2009). This study can represent a different view from the existing literature regarding advertising acceptance, knowledgeable voice assistants.

With the study results, it can be said that the primary motivators of advertising acceptance to smart speaker users are all the factors that contribute to channel acceptance, which means that consumers need to perceive that the channel adds benefits to their daily life. Moreover, it is also recognized that to increase advertising acceptance, the brands that create and work to optimize these devices must invest in adding functionalities to give the consumer the possibility not only the control over what is being advertised, improving the experience of using the device and receiving advertising. Likewise, the message's content, the relevance it has to the audience, and the feelings and emotions it can generate are also considered motivators of advertising acceptance. Regarding acceptance to receive advertising, brands' job is to focus on these main pillars to construct a firm communication strategy and deliver consumers what they want while giving them an excellent experience of receiving advertising, mostly when the channel represents one of the biggest technology trends.

7.1. Limitations and Future Research

Considering the main conclusions, despite being able to achieve the proposed objectives, some of the proposed hypotheses are not supported, which can be a consequence of the study limitations.

First, this research intends to test which factors influence advertising acceptance through a new channel (smart speakers), using channel acceptance, advertising content, and trust in advertising as principal players and as mediators. However, other possible mediating and moderating effects could help understand these relationships, such as brand equity and brand trust.

Future research should also consider the different types of smart speaker users to understand these devices' biggest target and, consequently, the target population that brands can impact when advertising on this channel.

There are also few studies regarding the possibility to advertise through voice assistance. However, none of them specify how brands should act when they have the opportunity to do that, what is the best approach, how they will interact with advertising, and which tone of voice

they must use, something more formal or more friendly. Later research could also focus on the content itself to understand what consumers want to hear when these devices advertise to them.

Another interesting point to future research can be the voice assistant's possibility to become a personal influencer. Since users can create trust and friendly relationships with their devices and, as they can become an important suggestion when the consumer needs to make a buying decision, brands can use these devices as influencers.

Lastly, this study focuses on the Portuguese context, which does not permit to enlarge conclusions to other countries with different characteristics and environmental conditions. Consequently, future research might expand the research's focus on different cultural and environmental realities, especially those that are more developed in technology, particularly in countries where smart speakers are already a reality in many households.

References

- Adapa, A., Nah, F. F. H., Hall, R. H., Siau, K., & Smith, S. N. (2018). Factors Influencing the Adoption of Smart Wearable Devices. *International Journal of Human-Computer Interaction, 34*(5), 399–409. <https://doi.org/10.1080/10447318.2017.1357902>
- Adobe. (2020). *Adobe: Smart Speakers Less Intrusive, More Effective Ad Platform*. Retrieved 12 September 2020 from http://www.insideradio.com/free/adobe-smart-speakers-less-intrusive-more-effective-ad-platform/article_143a35e2-fd5a-11ea-9a12-9b2a9c251ac3.html
- Aeschlimann, S., Bleiker, M., Wechner, M., & Gampe, A. (2020). Communicative and social consequences of interactions with voice assistants. *Computers in Human Behavior, 112*, 106466. <https://doi.org/10.1016/j.chb.2020.106466>
- Aksu, H., Babun, L., Conti, M., Tolomei, G., & Uluagac, A. S. (2018). Advertising in the IoT Era: Vision and Challenges. *IEEE Communications Magazine, 56*(11), 138–144. <https://doi.org/10.1109/MCOM.2017.1700871>
- Al-Shbiel, S. O., & Ahmad, M. A. (2016). A Theoretical Discussion of Electronic Banking in Jordan by Integrating Technology Acceptance Model and Theory of Planned Behavior. *International Journal of Academic Research in Accounting, Finance and Management Sciences, 6*(3), 272–284. <https://doi.org/10.6007/ijarafms/v6-i3/2275>
- Ariely, D. (2000). Controlling the information flow: Effects on consumers' decision making and preferences. *Journal of Consumer Research, 27*(2), 233–248. <https://doi.org/10.1086/314322>
- Bakr, Y., Tolba, A., & Meshreki, H. (2019). Drivers of SMS advertising acceptance: a mixed-methods approach. *Journal of Research in Interactive Marketing, 13*(1), 96–118. <https://doi.org/10.1108/JRIM-02-2018-0033>
- Barwise, P., & Strong, C. (2002). Permission-based mobile advertising. *Journal of Interactive Marketing, 16*(1), 14–24. <https://doi.org/10.1002/dir.10000>
- Batra, R., & Keller, K. L. (2016). Integrating marketing communications: New findings, new lessons, and new ideas. *Journal of Marketing, 80*(6), 122–145. <https://doi.org/10.1509/jm.15.0419>
- Bauer, H., & Greyser, S. (1968). *Advertising in America : The Consumer View*. 67(4).
- Bauer, H., Reichardt, T., Barnes, S., & Marcus, M. N. (2005). Driving Consumer Acceptance of Location-Based Services in Mobile Applications: A Theoretical Framework and an Empirical Study. *Journal of Electronic Commerce Research, 6*(3), 181–192.
- Beatty, S. E., Kahle, L. R., Homer, P., & Misra, S. (1985). Consumer Values.pdf. In *Psychology & Marketing* (Vol. 2, pp. 181–200).
- Bond, S. (2017). *Brands seek to be heard on voice-powered devices*. Retrieved 14 July 2020 from <https://www.ft.com/content/cb1184b2-1642-11e7-80f4-13e067d5072c>
- Bormane, S. (2019). Trends in the Development of Integrated Marketing Communication in the Context of Digital Marketing. *Proceedings of the International Scientific Conference, 6*(Imc), 84. <https://doi.org/10.17770/sie2019vol6.3717>
- Brill, T. M., Munoz, L., & Miller, R. J. (2019). Siri, Alexa, and other digital assistants: a study of customer satisfaction with artificial intelligence applications. *Journal of Marketing Management, 35*(15–16), 1401–1436. <https://doi.org/10.1080/0267257X.2019.1687571>
- Brunello, A. (2013). the Relationship Between Integrated Marketing. *International Journal of Communication Research, 3*(1), 9–14.
- Campbell, C., Sands, S., Ferraro, C., Tsao, H. Y. (Jody), & Mavrommatis, A. (2020). From data to action: How marketers can leverage AI. *Business Horizons, 63*(2), 227–243. <https://doi.org/10.1016/j.bushor.2019.12.002>
- Carroll, A., Barnes, S. J., & Scornavacca, E. (2008). Consumer perceptions and attitudes

- towards mobile marketing. *Selected Readings on Telecommunications and Networking*, 357–368. <https://doi.org/10.4018/978-1-60566-094-3.ch025>
- Cepeda-Carrion, G., Nitzl, C., & Roldán, J. L. (2017). Mediation analyses in partial least squares structural equation modeling: Guidelines and empirical examples. *Partial Least Squares Path Modeling: Basic Concepts, Methodological Issues and Applications*, January, 173–195. https://doi.org/10.1007/978-3-319-64069-3_8
- Chan-Olmsted, S. M. (2019). A Review of Artificial Intelligence Adoptions in the Media Industry. *JMM International Journal on Media Management*, 21(3–4), 193–215. <https://doi.org/10.1080/14241277.2019.1695619>
- Charts, M. (2017). *As smart speaker usage grows, voice increasingly replaces swiping and typing*. Retrieved 10 June 2020 from <https://www.marketingcharts.com/digital/non-mobile-connected-devices-81361>
- Chen, P. T., & Hsieh, H. P. (2012). Personalized mobile advertising: Its key attributes, trends, and social impact. *Technological Forecasting and Social Change*, 79(3), 543–557. <https://doi.org/10.1016/j.techfore.2011.08.011>
- Chin, W. W. (1998). Issues and opinion on structural equation modeling. *MIS Quarterly: Management Information Systems*, 22(1).
- Cizmeci, F. (2015). The effect of digital marketing communication tools to create brand awareness by housing companies. *MEGARON / Yıldız Technical University, Faculty of Architecture E-Journal / Yıldız Technical University, Faculty of Architecture E-Journal*, 10(2), 149–161. <https://doi.org/10.5505/megaron.2015.73745>
- Csikósová, A., Antošová, M., & Čulková, K. (2014). Strategy in Direct and Interactive Marketing and Integrated Marketing Communications. *Procedia - Social and Behavioral Sciences*, 116, 1615–1619. <https://doi.org/10.1016/j.sbspro.2014.01.444>
- Daugherty, T., Logan, K., Chu, S.-C., & Huang, S.-C. (2008). Understanding Consumer Perceptions of Advertising: a Theoretical Framework of Attitude and Confidence. *American Academy of Advertising, March*, 308–312.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly: Management Information Systems*, 13(3), 319–339. <https://doi.org/10.2307/249008>
- Dawar, N., & Bendle, N. (2018). *Marketing in the Age of Alexa*. Harvard Business Review. <https://hbr.org/2018/05/marketing-in-the-age-of-alexa>
- Deza, A., Huang, K., & Metel, M. R. (2015). Chance constrained optimization for targeted internet advertising. *Omega (United Kingdom)*, 53, 90–96. <https://doi.org/10.1016/j.omega.2014.12.007>
- Dictionaries, O. (2020). *artificial intelligence / Definition of artificial intelligence in English*. Retrieved 10 June 2020 from <https://www.oxfordlearnersdictionaries.com/definition/english/artificial-intelligence>
- Digital Marketing Conference. (2019). *The Impact of New Technology on Marketing*. Retrieved 12 September 2020 from <https://www.digitalmarketing-conference.com/the-impact-of-new-technology-on-marketing/>
- Dionísio, P., Rodrigues, J., Faria, H., Canhoto, R., & Nunes, R. (2009). *b-Mercator* (Dom Quixote (ed.)).
- Dix, S., Phau, I., Jamieson, K., & Shimul, A. S. (2017). Investigating the Drivers of Consumer Acceptance and Response of SMS Advertising. *Journal of Promotion Management*, 23(1), 62–79. <https://doi.org/10.1080/10496491.2016.1251526>
- Donahue, L., & Hajizadeh, F. (2019). Artificial Intelligence in Cloud Marketing. *Artificial Intelligence and Machine Learning for Business for Non-Engineers*, 77–88. <https://doi.org/10.1201/9780367821654-7>
- Drossos, D., Giaglis, G. M., Lekakos, G., Kokkinaki, F., & Stavradi, M. G. (2007).

- Determinants of Effective SMS Advertising: An Experimental Study. *Journal of Interactive Advertising*, 7(2), 16–27. <https://doi.org/10.1080/15252019.2007.10722128>
- Ducoffe, R. (1995). How consumers assess the value of advertising. *Journal of Current Issues and Research in Advertising*, 17(1), 1–18. <https://doi.org/10.1080/10641734.1995.10505022>
- Ducoffe, R. (1996). Advertising value and advertising the Web. *Journal of Advertising Research*, October, 21–35.
- Ducoffe, R., & Curlo, E. (2000). Advertising value and advertising processing. *Journal of Marketing Communications*, 6(4), 247–262. <https://doi.org/10.1080/135272600750036364>
- Ekhlassi, A. (2012). Determining the Integrated Marketing Communication Tools for Different Stages of Customer Relationship in Digital Era. *International Journal of Information and Electronics Engineering*, 2(5), 761–765. <https://doi.org/10.7763/ijee.2012.v2.202>
- eMarketer. (2019). *What's Shaping the Digital Ad Market*. Retrieved 12 September 2020 from <https://www.emarketer.com/content/global-digital-ad-spending-2019%0A>
- eMarketer. (2020). *Global Digital Ad Spending Update Q2 2020*. Retrieved 12 September 2020 from <https://www.emarketer.com/content/global-digital-ad-spending-update-q2-2020>
- Faggella, D. (2019). *Artificial Intelligence in Marketing and Advertising – 5 Examples of Real Traction*. <https://emerj.com/ai-sector-overviews/artificial-intelligence-in-marketing-and-advertising-5-examples-of-real-traction/>
- Fahmy, M. M., & Ghoneim, A. I. (2016). The Impact of Interactivity on Advertising Effectiveness of Corporate Websites: A Mediated Moderation Model. *International Journal of Marketing Studies*, 8(5), 41. <https://doi.org/10.5539/ijms.v8n5p41>
- Fishbein, M., & Ajzen, I. (1975). Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research. *Contemporary Sociology*, 6(2), 244. <https://doi.org/10.2307/2065853>
- Fiske, J. (1982). Introduction To Communication Studies. In *Introduction To Communication Studies*. <https://doi.org/10.4324/9780203323212>
- Forbes. (2018). *Okay Google: Voice Search Technology And The Rise Of Voice Commerce*. Retrieved 12 September 2020 from <https://www.forbes.com/sites/tjmccue/2018/08/28/okay-google-voice-search-technology-and-the-rise-of-voice-commerce/#5234551d4e29>
- Gagnon, M. P., Godin, G., Gagné, C., Fortin, J. P., Lamothe, L., Reinharz, D., & Cloutier, A. (2003). An adaptation of the theory of interpersonal behaviour to the study of telemedicine adoption by physicians. *International Journal of Medical Informatics*, 71(2–3), 103–115. [https://doi.org/10.1016/S1386-5056\(03\)00094-7](https://doi.org/10.1016/S1386-5056(03)00094-7)
- Gaikwad, S. K., Gawali, B. W., & Yannawar, P. (2010). A Review on Speech Recognition Technique. *International Journal of Computer Applications*, 10(3), 16–24. <https://doi.org/10.5120/1462-1976>
- Gallarza, M. G., & Saura, I. G. (2006). Value dimensions, perceived value, satisfaction and loyalty: An investigation of university students' travel behaviour. *Tourism Management*, 27(3), 437–452. <https://doi.org/10.1016/j.tourman.2004.12.002>
- Gao, L., & Bai, X. (2014). A unified perspective on the factors influencing consumer acceptance of internet of things technology. *Asia Pacific Journal of Marketing and Logistics*, 26(2), 211–231. <https://doi.org/10.1108/APJML-06-2013-0061>
- Gentzkow, M. (2015). Media and Artificial Intelligence. *Quarterly Journal of Economics*, 126(4).
- Grewal, D., Roggeveen, A. L., & Nordfält, J. (2017). The Future of Retailing. *Journal of Retailing*, 93(1), 1–6. <https://doi.org/10.1016/j.jretai.2016.12.008>
- Gupta, R. (2012). *Advertising Principles and Practice - With 17 recent Indian Case Studies*

- (First Edit). SChand Publications.
- Guzman, A. L. (2019). Voices in and of the machine: Source orientation toward mobile virtual assistants. *Computers in Human Behavior*, 90, 343–350. <https://doi.org/10.1016/j.chb.2018.08.009>
- Hair, J., Black, W., Barry, B., & Rolph, A. (2017). *Multivariate Data Analysis (MVDA)*. <https://doi.org/10.1002/9781118895238.ch8>
- Hair, J., Hult, G., Ringle, C., & Sarstedt, M. (2013). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). *Sage*, 165.
- Hair, J., Sarstedt, M., Ringle, C., & Mena, J. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. *Journal of the Academy of Marketing Science*, 40(3), 414–433. <https://doi.org/10.1007/s11747-011-0261-6>
- Hanley, M., & Becker, M. (2006). Cell Phone Usage and Advertising Acceptance Among College Students: *International Journal of Mobile Marketing* 3.1, 3(1), 67–81. <http://web.a.ebscohost.com/ehost/pdfviewer/pdfviewer?sid=a5649009-f3bb-485a-ba27-a32d11e61c97%40sessionmgr4001&vid=0&hid=4201>
- Haq, Z. U. (2009). E-mail advertising: A study of consumer attitude toward e-mail advertising among Indian users. *Journal of Retail and Leisure Property*, 8(3), 207–223. <https://doi.org/10.1057/rlp.2009.10>
- Harms, B., Bijmolt, T. H. A., & Hoekstra, J. C. (2019). You don't fool me! Consumer perceptions of digital native advertising and banner advertising. *Journal of Media Business Studies*, 16(4), 275–294. <https://doi.org/10.1080/16522354.2019.1640517>
- Heinonen, K., & Strandvik, T. (2007). Consumer responsiveness to mobile marketing. *International Journal of Mobile Communications*, 5(6), 603–617. <https://doi.org/10.1504/IJMC.2007.014177>
- Henseler, J., Hubona, G., & Ray, P. A. (2016). Using PLS path modeling in new technology research: Updated guidelines. *Industrial Management and Data Systems*, 116(1), 2–20. <https://doi.org/10.1108/IMDS-09-2015-0382>
- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. *Advances in International Marketing*, 20(January), 277–319. [https://doi.org/10.1108/S1474-7979\(2009\)0000020014](https://doi.org/10.1108/S1474-7979(2009)0000020014)
- Herbert, J. C. (1988). *Broadcast Speech and the Effect of Voice Quality on the Listener*. October. <https://core.ac.uk/download/pdf/77023622.pdf>
- Houston, F. S., & Gassenheimer, J. B. (1987). Marketing and Exchange. *Journal of Marketing*, 51(4), 3. <https://doi.org/10.2307/1251244>
- Hoy, M. B. (2018). Alexa, Siri, Cortana, and More: An Introduction to Voice Assistants. *Medical Reference Services Quarterly*, 37(1), 81–88. <https://doi.org/10.1080/02763869.2018.1404391>
- InformationAge. (2018). *How artificial intelligence is changing advertising*. Retrieved 16 September 2020 from <https://www.information-age.com/artificial-intelligence-advertising-123471781/>
- Jansson-Boyd, C. (2010). Consumer Psychology. In *Annual review of psychology* (Vol. 16). <https://doi.org/10.1146/annurev.ps.16.020165.001405>
- Jarek, K., & Mazurek, G. (2019). Marketing and artificial intelligence. *Central European Business Review*, 8(2), 46–55. <https://doi.org/10.18267/j.cebr.213>
- Jones, V. K. (2018). Voice-activated change: Marketing in the age of artificial intelligence and virtual assistants. *Journal of Brand Strategy*, 7(3), 233–245.
- Jose, J. (2017). Impact of Technology on Consumer Behaviour. *IRA-International Journal of Management & Social Sciences (ISSN 2455-2267)*, 6(2), 264. <https://doi.org/10.21013/jmss.v6.n2.p10>
- Ju, J., Kim, D., Park, K., Park, Y., Yun, J., & Ahn, J. H. (2017). Is advertising on an AI speaker

- effective? The role of interactivity, product type, and thematic congruence. *ACM International Conference Proceeding Series*, 360–365. <https://doi.org/10.1145/3176653.3176720>
- JuniperResearch. (2018). *Juniper Research's Top 10 Tech Trend for 2018*. Retrieved 12 July 2020 from <https://www.juniperresearch.com/document-library/white-papers/juniper-research-top-10-tech-trends-for-2018>
- Kaličanin, K., Čolović, M., Njeguš, A., & Mitić, V. (2019). Benefits of Artificial Intelligence and Machine Learning in Marketing. *International Scientific Conference of Information Technology and Data Related Research*, 472–477. <https://doi.org/10.15308/sinteza-2019-472-477>
- Kannan, P. K., & Li, H. "Alice." (2017). Digital marketing: A framework, review and research agenda. *International Journal of Research in Marketing*, 34(1), 22–45. <https://doi.org/10.1016/j.ijresmar.2016.11.006>
- Keller, K. L. (2001). Mastering the Marketing Communications Mix: Micro and Macro Perspectives on Integrated Marketing Communication Programs. *Journal of Marketing Management*, 17(7–8), 819–847. <https://doi.org/10.1362/026725701323366836>
- Keller, K. L. (2003). Understanding brands, branding and brand equity. *Interactive Marketing*, 5(1), 7–20. <https://doi.org/10.1057/palgrave.im.4340213>
- Khasawneh, M. Al, & Shuhaiber, A. (2013). A Comprehensive Model of Factors Influencing Consumer Stitude Towards and Acceptance of SMS Advertising: An Empirical Investigation in Jordan. *International Journal of Sales and Marketing Management Research and Development*, 3(2), 1–22.
- Kim, D., Park, K., Park, Y., Ju, J., & Ahn, J. H. (2018). Alexa, tell me more: The effect of advertisements on memory accuracy from smart speakers. *Proceedings of the 22nd Pacific Asia Conference on Information Systems - Opportunities and Challenges for the Digitized Society: Are We Ready?, PACIS 2018*.
- Kim, H. Y., Lee, J. Y., Mun, J. M., & Johnson, K. K. P. (2017). Consumer adoption of smart in-store technology: assessing the predictive value of attitude versus beliefs in the technology acceptance model. *International Journal of Fashion Design, Technology and Education*, 10(1), 26–36. <https://doi.org/10.1080/17543266.2016.1177737>
- King, W. R., & He, J. (2006). A meta-analysis of the technology acceptance model. *Information and Management*, 43(6), 740–755. <https://doi.org/10.1016/j.im.2006.05.003>
- Kitchen, P., & Burgmann, I. (2010). Integrated Marketing Communication. In *Wiley International Encyclopedia of Marketing* (Issue Imc, pp. 1–23).
- Knote, R., Janson, A., Eigenbrod, L., & Söllner, M. (2018). The what and how of smart personal assistants: Principles and application domains for IS research. *MKWI 2018 - Multikonferenz Wirtschaftsinformatik, 2018-March*(March), 1083–1094.
- Kotler, P. (2000). Marketing Management, Millenium Edition. *Marketing Management*, 23(6), 188–193. [https://doi.org/10.1016/0024-6301\(90\)90145-T](https://doi.org/10.1016/0024-6301(90)90145-T)
- Kowalczuk, P. (2018). Consumer acceptance of smart speakers: a mixed methods approach. *Journal of Research in Interactive Marketing*, 12(4), 418–431. <https://doi.org/10.1108/JRIM-01-2018-0022>
- Krauth, O. (2018). *What Will Advertising on Smart Speakers Look Like?* Retrieved 21 July 2020 from <https://www.techrepublic.com/article/what-will-advertising-on-smart-speakers-look-like/>
- Kumar, V., Rajan, B., Venkatesan, R., & Lecinski, J. (2019). Understanding the role of artificial intelligence in personalized engagement marketing. *California Management Review*, 61(4), 135–155. <https://doi.org/10.1177/0008125619859317>
- Lamberton, C., & Stephen, A. T. (2016). A thematic exploration of digital, social media, and mobile marketing: Research evolution from 2000 to 2015 and an agenda for future inquiry.

- Journal of Marketing*, 80(6), 146–172. <https://doi.org/10.1509/jm.15.0415>
- Lau, J., Zimmerman, B., & Schaub, F. (2018). Alexa, are you listening? Privacy perceptions, concerns and privacy-seeking behaviors with smart speakers. *Proceedings of the ACM on Human-Computer Interaction*, 2(CSCW). <https://doi.org/10.1145/3274371>
- Lau, T., Tunku, U., & Rahman, A. (2015). The Determinants of Consumers' Attitude Towards Advertising. *Canadian Social Science*, 6(4), 114–126. <https://doi.org/10.3968/1082>
- Lee, H., & Cho, C.-H. (2020). Digital advertising: present and future prospects. *International Journal of Advertising*, 39(3), 332–341. <https://doi.org/10.1080/02650487.2019.1642015>
- Lee, H., & Cho, C. H. (2019). An empirical investigation on the antecedents of consumers' cognitions of and attitudes towards digital signage advertising. *International Journal of Advertising*, 38(1), 97–115. <https://doi.org/10.1080/02650487.2017.1401509>
- Lee, M. C. (2009). Factors influencing the adoption of internet banking: An integration of TAM and TPB with perceived risk and perceived benefit. *Electronic Commerce Research and Applications*, 8(3), 130–141. <https://doi.org/10.1016/j.elerap.2008.11.006>
- Leppäniemi, M., & Karjaluoto, H. (2005). Factors influencing consumers' willingness to accept mobile advertising: A conceptual model. *International Journal of Mobile Communications*, 3(3), 197–213. <https://doi.org/10.1504/IJMC.2005.006580>
- Ley, B., Ogonowski, C., Hess, J., Reichling, T., Wan, L., & Wulf, V. (2014). Impacts of new technologies on media usage and social behaviour in domestic environments. *Behaviour and Information Technology*, 33(8), 815–828. <https://doi.org/10.1080/0144929X.2013.832383>
- Ling, K. C., Piew, T. H., & Chai, L. T. (2010). The Determinants of Consumers' Attitude Towards Advertising. *Canadian Social Science*, 6(4), 114–126. <https://doi.org/10.3968/1082>
- Liu, F., Kanso, A., Zhang, Y., & Olaru, D. (2019). Culture, Perceived Value, and Advertising Acceptance: A Cross-Cultural Study on Mobile Advertising. *Journal of Promotion Management*, 25(7), 1028–1058. <https://doi.org/10.1080/10496491.2019.1612495>
- Lombard, M., & Snyder-Duch, J. (2001). Interactive Advertising and Presence. *Journal of Interactive Advertising*, 1(2), 56–65. <https://doi.org/10.1080/15252019.2001.10722051>
- Malhotra, N., Nunan, D., & Birks, D. F. (2016). Marketing research. In *The Marketing Book: Seventh Edition*. <https://doi.org/10.4324/9781315890005>
- Malkanthie, A. (2018). Customer Attitude towards Mobile Advertising. *Academy for Global Business Advancement (AGBA), 15th World Congress, Thailand*, 1153–1163.
- Mari, A. (2019). Voice Commerce: Understanding shopping-related voice assistants and their effect on brands. *IMMAA Annual Conference. Northwestern University in Qatar, Doha (Qatar), October, 2*.
- Mark, J. (2017). Advertising. In *Havanur College of Law*. <https://www.coursehero.com/file/35814108/08-chapter-1pdf/>
- Mathwick, C. (2002). Understanding the online consumer: A typology of online relational norms and behavior. *Journal of Interactive Marketing*, 16(1), 40. <https://doi.org/10.1002/dir.10003.abs>
- McCaffrey, M., Hayes, P., Hobbs, M., & Wagner, J. (2018). Consumer Intelligence Series: Prepare for the voice revolution. *PwC Consumer Intelligence Series*, 1–12. <https://www.pwc.com/us/en/advisory-services/publications/consumer-intelligence-series/pwc-voice-assistants.pdf>
- McKnight, H. D., Choudhury, V., & Kacmar, C. (2002). The impact of initial consumer trust on intentions to transact with a web site: A trust building model. *Journal of Strategic Information Systems*, 11(3–4), 297–323. [https://doi.org/10.1016/S0963-8687\(02\)00020-3](https://doi.org/10.1016/S0963-8687(02)00020-3)
- McLean, G., & Osei-frimpong, K. (2019). Computers in Human Behavior Hey Alexa ... examine the variables in influencing the use of artificial intelligent in-home voice

- assistants. *Computers in Human Behavior*, 99(May), 28–37.
- McLean, G., & Osei-Frimpong, K. (2019). Hey Alexa ... examine the variables influencing the use of artificial intelligent in-home voice assistants. *Computers in Human Behavior*, 99(January), 28–37. <https://doi.org/10.1016/j.chb.2019.05.009>
- Merisavo, M., Kajalo, S., Karjaluoto, H., Virtanen, V., Salmenkivi, S., Raulas, M., & Leppäniemi, M. (2007). An Empirical Study of the Drivers of Consumer Acceptance of Mobile Advertising. *Journal of Interactive Advertising*, 7(2), 41–50. <https://doi.org/10.1080/15252019.2007.10722130>
- Mihart, C. (2012). Impact of Integrated Marketing Communication on Consumer Behaviour: Effects on Consumer Decision – Making Process. *International Journal of Marketing Studies*, 4(2), 121–129. <https://doi.org/10.5539/ijms.v4n2p121>
- Mkhize, S., & Ellis, D. (2020). Creativity in marketing communication to overcome barriers to organic produce purchases: The case of a developing nation. *Journal of Cleaner Production*, 242, 118415. <https://doi.org/10.1016/j.jclepro.2019.118415>
- Mohammadbagher, M. S., Jandaghi, G., & Hadi Taghavi. (2016). Factors Influencing the Intention to Accept Advertising in Mobile Social Networks. *Маркетинг I Менеджмент Інновацій*, 1(1), 57–72. <https://doi.org/10.1103/PhysRevE.66.051603>
- Moon, J. W., & Kim, Y. G. (2001). Extending the TAM for a World-Wide-Web context. *Information and Management*, 38(4), 217–230. [https://doi.org/10.1016/S0378-7206\(00\)00061-6](https://doi.org/10.1016/S0378-7206(00)00061-6)
- Moorman, C., Zaltman, G., & Deshpande, R. (1992). Relationships between Providers and Users of Market Research: The Dynamics of Trust within and between Organizations. *Journal of Marketing Research*, 29(3), 314. <https://doi.org/10.2307/3172742>
- Moriuchi, E. (2019). Okay, Google!: An empirical study on voice assistants on consumer engagement and loyalty. *Psychology and Marketing*, 36(5), 489–501. <https://doi.org/10.1002/mar.21192>
- Muk, A. (2007). Consumers' intentions to opt in to SMS advertising: A cross-national study of young Americans and Koreans. *International Journal of Advertising*, 26(2), 177–198. <https://doi.org/10.1080/10803548.2007.11073006>
- Mulhern, F. (2009). Integrated marketing communications: From media channels to digital connectivity. *Journal of Marketing Communications*, 15(2–3), 85–101. <https://doi.org/10.1080/13527260902757506>
- Munusamy, J., & Wong, C. H. (2007). Attitude towards advertising among students at private higher learning institutions in selangor. *Ятыатат, выI2y(235)*, 245.
- Nageswari, R. (2019). The evolution of consumer behaviour in digital the age. *UGC Journal*, 45489, 245–251.
- Oh, L.-B., & Xu, H. (2003). Effects of Multimedia on Mobile Consumer Behavior: An Empirical Study of Location-Aware Advertising. *Twenty-Fourth International Conference on Information Systems*, 679–691.
- Olson, C., & Levy, J. (2018). Transforming marketing with artificial intelligence. *Applied Marketing Analytics*, 3(4), 291–297. <https://doi.org/10.13140/RG.2.2.25848.67844>
- Parise, S., Guinan, P. J., & Kafka, R. (2016). Solving the crisis of immediacy: How digital technology can transform the customer experience. *Business Horizons*, 59(4), 411–420. <https://doi.org/10.1016/j.bushor.2016.03.004>
- Park, E., Cho, Y., Han, J., & Kwon, S. J. (2017). Comprehensive Approaches to User Acceptance of Internet of Things in a Smart Home Environment. *IEEE Internet of Things Journal*, 4(6), 2342–2350. <https://doi.org/10.1109/JIOT.2017.2750765>
- Parreño, J. M., Sanz-Blas, S., Ruiz-Mafé, C., & Aldás-Manzano, J. (2013). Key factors of teenagers' mobile advertising acceptance. *Industrial Management and Data Systems*, 113(5), 732–749. <https://doi.org/10.1108/02635571311324179>

- Parsons, A., Zeisser, M., & Waitman, R. (1998). Organizing today for the digital marketing of tomorrow. *Journal of Interactive Marketing*, 12(1), 31–46. [https://doi.org/10.1002/\(sici\)1520-6653\(199824\)12:1<31::aid-dir4>3.3.co;2-o](https://doi.org/10.1002/(sici)1520-6653(199824)12:1<31::aid-dir4>3.3.co;2-o)
- Pavlou, P. A., & Stewart, D. W. (2000). Measuring the Effects and Effectiveness of Interactive Advertising. *Journal of Interactive Advertising*, 1(1), 61–77. <https://doi.org/10.1080/15252019.2000.10722044>
- Petrovici, D., Marinova, S., Marionv, M., & Lee, N. (2007). Personal uses and perceived social and economic effects of advertising in Bulgaria and Romania. *Journal of International Marketing Review*, 24(5), 539–562.
- Pollay, R., & Mittal, B. (1993). *Here 's the Beef: and Factors , Determinants , Segments in Consumer Criticism of Advertising*. 57(3), 99–114.
- Pridmore, D. (2017). Artificial intelligence. *ABB Review*, 4(December), 66–67.
- Purcarea, V. L., Gheorghe, I.-R., & Gheorghe, C.-M. (2015). Uncovering the Online Marketing Mix Communication for Health Care Services. *Procedia Economics and Finance*, 26(15), 1020–1025. [https://doi.org/10.1016/s2212-5671\(15\)00925-9](https://doi.org/10.1016/s2212-5671(15)00925-9)
- Purington, A., Taft, J. G., Sannon, S., Bazarova, N. N., & Taylor, S. H. (2017). “Alexa is my new BFF”: Social roles, user satisfaction, and personification of the Amazon Echo. *Conference on Human Factors in Computing Systems - Proceedings, Part F1276*, 2853–2859. <https://doi.org/10.1145/3027063.3053246>
- Rajala, R., & Westerlund, M. (2010). Antecedents to consumers’ acceptance of mobile advertisements - A hierarchical construct PLS structural equation model. *Proceedings of the Annual Hawaii International Conference on System Sciences*, 1–10. <https://doi.org/10.1109/HICSS.2010.64>
- Ramaprasad, J. (2001). South asian students’ beliefs about and attitude toward advertising. *Journal of Current Issues and Research in Advertising*, 23(1), 55–70. <https://doi.org/10.1080/10641734.2001.10505114>
- Rinko, M. (2018). *Here Are 10 AI Technologies That Will Dominate In 2019*. Retrieved Retrieved 14 July 2020 from 21 August 2020 from <https://www.aitrends.com/ai-in-business/here-are-10-ai-technologies-that-will-dominate-in-2019/>
- Roca, J. C., García, J. J., & de la Vega, J. J. (2009). The importance of perceived trust, security and privacy in online trading systems. *Information Management and Computer Security*, 17(2), 96–113. <https://doi.org/10.1108/09685220910963983>
- Royle, J., & Laing, A. (2014). The digital marketing skills gap: Developing a Digital Marketer Model for the communication industries. *International Journal of Information Management*, 34(2), 65–73. <https://doi.org/10.1016/j.ijinfomgt.2013.11.008>
- Rust, R. T., & Huang, M. H. (2014). The service revolution and the transformation of marketing science. *Marketing Science*, 33(2), 206–221. <https://doi.org/10.1287/mksc.2013.0836>
- Rzepka, C., Berger, B., & Hess, T. (2020). Why Another Customer Channel? Consumers’ Perceived Benefits and Costs of Voice Commerce. *Proceedings of the 53rd Hawaii International Conference on System Sciences*, 3, 4079–4088. <https://doi.org/10.24251/hicss.2020.499>
- Saleem, F. (2013). Acceptance of SMS advertising in young Pakistani consumers. *Journal of Business & Economics*, 5(2), 206.
- Salois, M. J., & Reilly, A. (2014). Consumer response to perceived value and generic advertising. *Agricultural and Resource Economics Review*, 43(1), 17–30. <https://doi.org/10.1017/S1068280500006882>
- Scheinbaum, A. C. (2016). Digital engagement: Opportunities and risks for sponsors: Consumer-viewpoint and practical considerations for marketing via mobile and digital platforms. *Journal of Advertising Research*, 56(4), 341–345. <https://doi.org/10.2501/JAR-2016-040>

- Schweitzer, F., Belk, R., Jordan, W., & Ortner, M. (2019). Servant, friend or master? The relationships users build with voice-controlled smart devices. *Journal of Marketing Management*, 35(7–8), 693–715. <https://doi.org/10.1080/0267257X.2019.1596970>
- Shaw, G. B. (2009). *Chapter 2 : Integrated Marketing Communication*.
- Shields, R. (2018). *What the media industry really thinks about the impact of AI*. Retrieved 14 July 2020 from <https://www.thedrum.com/news/2018/07/06/what-the-media-industry-really-thinks-about-the-impact-ai>
- Shimp, T. A., & Andrews, C. J. (2013). Advertising, Promotion, And Other Aspects of Integrated Marketing Communication. *Integrated Marketing Communications*, 754.
- Singh, A. K., & Thirumoorthi. (2019). The impact of digital disruption technologies on customer preferences: The case of retail commerce. *International Journal of Recent Technology and Engineering*, 8(3), 1255–1261. <https://doi.org/10.35940/ijrte.C4404.098319>
- Smith, K. (2020). Marketing via smart speakers: what should Alexa say? *Journal of Strategic Marketing*, 28(4), 350–365. <https://doi.org/10.1080/0965254X.2018.1541924>
- Smith, R. E., Mackenzie, S. B., Yang, X., Buchholz, L. M., & Darley, W. K. (2007). Modeling the determinants and effects of creativity in advertising. *Marketing Science*, 26(6), 819–833. <https://doi.org/10.1287/mksc.1070.0272>
- Soh, H., Reid, L. N., & King, K. W. (2009). Measuring trust in advertising: Development and validation of the ADTRUST scale. *Journal of Advertising*, 38(2), 83–104. <https://doi.org/10.2753/JOA0091-3367380206>
- Stafford, M. R., & Day, E. (1995). Retail services advertising: The effects of appeal, medium, and service. *Journal of Advertising*, 24(1), 57–71. <https://doi.org/10.1080/00913367.1995.10673468>
- Statista. (2020a). *Advertising*. Retrieved 15 September 2020 from <https://www.statista.com/outlook/20000/100/advertising/worldwide#market-users>
- Statista. (2020b). *Artificial intelligence software market growth forecast worldwide 2019-2025*. Retrieved 15 September 2020 from <https://www.statista.com/statistics/607960/worldwide-artificial-intelligence-market-growth/>
- Steinhoff, L., Arli, D., Weaven, S., & Kozlenkova, I. V. (2019). Online relationship marketing. *Journal of the Academy of Marketing Science*, 47(3), 369–393. <https://doi.org/10.1007/s11747-018-0621-6>
- Sterne, J. (2017). *Artificial Intelligence for Marketing*. Wiley Online Library. <https://doi.org/10.1002/9781119406341>
- Sujata, J., Aniket, D., & Mahasingh, M. (2019). Artificial intelligence tools for enhancing customer experience. *International Journal of Recent Technology and Engineering*, 8(2 Special Issue 3), 700–706. <https://doi.org/10.35940/ijrte.B1130.0782S319>
- Sundar, S. S., Jung, E. H., Waddell, T. F., & Kim, K. J. (2017). Cheery companions or serious assistants? Role and demeanor congruity as predictors of robot attraction and use intentions among senior citizens. *International Journal of Human Computer Studies*, 97, 88–97. <https://doi.org/10.1016/j.ijhcs.2016.08.006>
- Tang, J., Zhang, P., & Wu, P. F. (2015). Categorizing consumer behavioral responses and artifact design features: The case of online advertising. *Information Systems Frontiers*, 17(3), 513–532. <https://doi.org/10.1007/s10796-014-9508-3>
- Taylor, S., & Todd, P. (1995). Decomposition and crossover effects in the theory of planned behavior: A study of consumer adoption intentions. *International Journal of Research in Marketing*, 12(2), 137–155. [https://doi.org/10.1016/0167-8116\(94\)00019-K](https://doi.org/10.1016/0167-8116(94)00019-K)
- TechRepublic. (2018). *What will advertising on smart speakers look like?* Retrieved 10 June 2020 from <https://www.techrepublic.com/article/what-will-advertising-on-smart->

speakers-look-like/

- Truong, Y., McColl, R., & Kitchen, P. (2010). Practitioners' perceptions of advertising strategies for digital media. *International Journal of Advertising*, 29(5), 709–725. <https://doi.org/10.2501/s0265048710201439>
- Ünal, S., Erciş, A., & Keser, E. (2011). Attitudes towards mobile advertising - A research to determine the differences between the attitudes of youth and adults. *Procedia - Social and Behavioral Sciences*, 24(December), 361–377. <https://doi.org/10.1016/j.sbspro.2011.09.067>
- VanEsch, P., Arli, D., Castner, J., Talukdar, N., & Northey, G. (2018). Consumer attitudes towards bloggers and paid blog advertisements: what's new? *Marketing Intelligence and Planning*, 36(7), 778–793. <https://doi.org/10.1108/MIP-01-2018-0027>
- Venkatesh, V., & Bala, H. (2008). Technology Acceptance Model 3 and a Research Agenda on Interventions Subject Areas: Design Characteristics, Interventions. *Decision Sciences*, 39(2), 273–315. http://www.vvenkatesh.com/wp-content/uploads/2015/11/Venkatesh_Bala_DS_2008.pdf
- Venkatesh, V., & Davis, F. D. (2000). Theoretical extension of the Technology Acceptance Model: Four longitudinal field studies. *Management Science*, 46(2), 186–204. <https://doi.org/10.1287/mnsc.46.2.186.11926>
- Venkatesh, V., Morris, M. G., David, G. B., & Davis, F. D. (2003). User acceptance of information technology: toward a unified view. *MIS Quarterly: Management Information Systems*, 27(3), 425–478. <https://doi.org/10.2307/30036540>
- Venkatesh, V., Thong, J., & Xu, X. (2012). Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology. *MIS Quarterly: Management Information Systems*, 36(1), 157–178. <https://doi.org/10.1042/bst0120672>
- VentureBeat. (2019). *Voice marketing is a looming opportunity, but not without its pitfalls*. Retrieved 14 July 2020 from <https://venturebeat.com/2019/02/09/voice-marketing-is-a-looming-opportunity-but-not-without-its-pitfalls/>
- Vesonen, J., & Raulas, M. (2006). Building bridges for personalization: A process model for marketing. *Journal of Interactive Marketing*, 20(1), 5–20. <https://doi.org/10.1002/dir.20052>
- Vinzi, V. E., Chin, W. W., Henseler, J., & Wang, H. (2010). *Handbook of Partial Least Squares: Concepts, Methods and Applications (Springer Handbooks of Computational Statistics)*.
- Wong, K. K.-K. (2013). Partial Least Squares Structural Equation Modeling (PLS-SEM) Techniques Using SmartPLS. *Marketing Bulletin*, 24(1), 1–32.
- Wu, J. H., & Wang, S. C. (2005). What drives mobile commerce? An empirical evaluation of the revised technology acceptance model. *Information and Management*, 42(5), 719–729. <https://doi.org/10.1016/j.im.2004.07.001>
- Wymbs, C. (2011). Digital marketing: The time for a new “academic major” has arrived. *Journal of Marketing Education*, 33(1), 93–106. <https://doi.org/10.1177/0273475310392544>
- Xu, X. (2016). Handbook of research on human social interaction in the age of mobile devices. In *Handbook of Research on Human Social Interaction in the Age of Mobile Devices: Vol. i*. <https://doi.org/10.4018/978-1-5225-0469-6>
- Yadav, M. S., & Pavlou, P. A. (2014). Marketing in computer-mediated environments: Research synthesis and new directions. *Journal of Marketing*, 78(1), 20–40. <https://doi.org/10.1509/jm.12.0020>
- Yousafzai, S. Y., Foxall, G. R., & Pallister, J. G. (2007). Technology acceptance: a meta-analysis of the TAM: Part 2. *Journal of Modelling in Management*, 2(3), 281–304.

<https://doi.org/10.1108/17465660710834462>

- Zeng, F., Huang, L., & Dou, W. (2009). Social Factors in User Perceptions and Responses to Advertising in Online Social Networking Communities. *Journal of Interactive Advertising*, 10(1), 1–13. <https://doi.org/10.1080/15252019.2009.10722159>
- Zeng, F., Tao, R., Yang, Y., & Xie, T. (2017). How social communications influence advertising perception and response in online communities? *Frontiers in Psychology*, 8(AUG), 1–12. <https://doi.org/10.3389/fpsyg.2017.01349>
- Zhang, P. (2011). What consumers think, feel, and do toward digital ADS: A multi-phase study. *19th European Conference on Information Systems, ECIS 2011, March*.

Appendixes

Appendix A – Survey

Figure 3 - Survey (in Portuguese)



O presente questionário é realizado no âmbito de uma tese de Mestrado em Marketing no ISCTE-IUL, que tem com objectivo analisar e medir a aceitação dos consumidores, relativamente à possibilidade de receberem publicidade através de assistentes virtuais inteligentes.

O questionário tem a duração de aproximadamente 10 minutos e pode ser respondido por qualquer pessoa, independentemente de ser ou não utilizador de um assistente de voz inteligente.

A participação no estudo é voluntária, e todas as respostas são confidenciais e anónimas. Os dados recolhidos serão utilizados apenas para fins académicos.

Agradeço desde já a disponibilidade e colaboração!



Sabe o que é um assistente de voz inteligente?

 Sim Não

Um assistente de voz inteligente é um dispositivo sem fios, ativado por voz que tem integrado o software de assistentes virtuais de forma a:

- obter informações (como está o trânsito? a que horas passa o próximo comboio?, etc.)
- executar tarefas (reproduzir uma música, aceder ao calendário, etc.)
- executar ações noutros objectos que estejam conectados com o dispositivo (luzes, sistema de alarme, automóveis, etc)
- interagir com fornecedores de serviços (produtos na lista de compras de um site de e-commerce, etc.)
- interagir com aplicações (chamar um Uber, enviar mensagens via Whatsapp, etc.).

Os assistentes de voz inteligentes têm como principais características:

- estarem sempre "ligados" e serem ativados através de palavras específicas (como "Hi Cortana" para produtos da Microsoft, " OK Google" para produtos do Google, " Hey Siri" para Apple e " "Alexa" para Amazon, etc.);
- terem um software interativo (podem pedir que o utilizador forneça mais informação sobre uma questão/pedido, por exemplo);
- tentam aprender e reter informação de forma a melhorar a sua capacidade de resposta, à medida que interagem com o utilizador.

Veja o seguinte video, de forma a entender melhor como funciona um assistente de voz inteligente:

<https://www.youtube.com/watch?v=OsXedJq1aWE>

Alguma vez interagiu com um assistente de voz inteligente?

Sim <input type="radio"/>	Não <input type="radio"/>
---------------------------	---------------------------

Tem um assistente de voz inteligente?

Sim <input type="radio"/>
Não <input type="radio"/>



Drivers of Smart Speakers' Advertising Acceptance

Considere a possibilidade de interagir com um assistente de voz inteligente, avalie numa escala de 1 a 7, sendo 1 "Discordo totalmente" e 7 "Concordo totalmente", qual o seu nível de concordância com as afirmações abaixo:

	1. Discordo totalmente	2	3	4. Nem concordo nem discordo	5	6	7. Concordo totalmente
Aprender a usar um assistente de voz inteligente seria fácil para mim	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A interação com um assistente de voz inteligente parece ser clara e compreensível	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Considero um assistente de voz inteligente fácil de utilizar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seria fácil tornar-me utilizador de um assistente de voz inteligente	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Utilizar um assistente de voz inteligente poderia ser bastante útil para a minha vida e para o meu dia-a-dia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A utilização de um assistente de voz inteligente iria aumentar as minhas hipóteses de alcançar coisas que são importantes para mim	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Usar um assistente de voz inteligente iria ajudar-me a realizar as minhas tarefas diárias mais eficientemente	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A utilização de um assistente de voz iria aumentar a minha produtividade	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Uma das minhas maiores preocupações iria ser fazer transações financeiras através de um assistente de voz inteligente	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teria algumas dúvidas sobre a confidencialidade das minhas interações com o assistente de voz inteligente	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ficaria preocupado com o facto de os meus dados pessoais, ao serem armazenados no assistente de voz inteligente, poderem ser roubados	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ficaria preocupado se o assistente de voz inteligente recolhesse demasiada informação sobre mim	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Pensando na possibilidade de receber publicidade através de um assistente de voz inteligente, avalie numa escala de 1 a 7, sendo 1 "Discordo totalmente" e 7 "Concordo totalmente", qual o seu nível de concordância com as afirmações abaixo:

Preferia receber publicidade, num assistente de voz inteligente, que:

	1. Discordo totalmente	2	3	4. Nem concordo nem discordo	5	6	7. Concordo totalmente
Forneça informações sobre a disponibilidade e localização de um produto/serviço.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Informe sobre saldos e descontos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Forneça informações sobre produtos/serviços sobre os quais perguntei especificamente	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Esclareça como é que determinado produto/serviço me irá beneficiar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seja sobre produtos/serviços relevantes tendo em conta a minha localização	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seja abordada por um especialista ou por uma fonte de confiança	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Explique como usar um determinado produto/serviço	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Contenha classificações de outros consumidores relativamente a determinado produto/serviço	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seja sobre produtos/serviços relacionados com a minha vida atual	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seja sobre produtos/serviços que o assistente de voz pense ser do meu interesse	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Contenha o meu nome	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seja abordada por uma celebridade	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Preferia receber publicidade, num assistente de voz inteligente, se:

	1. Discordo totalmente	2	3	4. Nem concordo nem discordo	5	6	7. Concordo totalmente
Fosse possível passar à frente anúncios que não sejam do meu interesse	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fosse possível pedir mais detalhes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fosse possível ouvir o anúncio novamente, sempre que quisesse	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tivesse acesso imediato ao atendimento ao cliente online	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fosse possível comprar directamente através do assistente de voz inteligente	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fosse possível guardar os anúncios do meu interesse no assistente de voz inteligente	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fosse possível partilhar anúncios com outras pessoas através das redes sociais	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Relativamente à possibilidade de receber publicidade através de um assistente de voz inteligente:

	1. Discordo totalmente	2	3	4. Nem concordo nem discordo	5	6	7. Concordo totalmente
Prefiro receber publicidade sobre produtos/serviços que sejam do meu interesse	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
No geral gosto de saber sobre novidades relacionadas com produtos/serviços que uso habitualmente	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Normalmente preocupo-me com a qualidade dos produtos/serviços que utilizo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gostaria de saber se, as marcas que questiono ao assistente de voz inteligente, lançam novos produtos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Se fosse possível, gostaria de comprar directamente através do assistente de voz inteligente	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gostaria de saber se os produtos/serviços, sobre os quais questiono ao assistente de voz inteligente, têm novas ofertas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



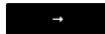
Drivers of Smart Speakers' Advertising Acceptance

concordância com as afirmações abaixo:

	1. Discordo totalmente	2	3	4. Nem concordo nem discordo	5	6	7. Concordo totalmente
Considero que a publicidade deve ter toda a informação necessária	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Considero que a publicidade deve ser completa	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Considero que a publicidade deve ser clara	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Considero que a publicidade deve ser de compreensão imediata	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Considero que a publicidade deve ser concisa	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Considero que a publicidade deve ser fácil de entender	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Considero que a publicidade deve gerar valor para mim e para a minha vida	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Considero que a publicidade deve ser útil	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Considero que a publicidade deve ser importante para mim	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Considero que os anúncios publicitários devem ser divertidos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Considero que a publicidade deve ser interessante	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Considero que os anúncios publicitários devem ser agradáveis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Considero que a informação contida na publicidade deve ser credível	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Considero que a informação contida na publicidade deve ser honesta	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Considero que a informação contida na publicidade deve ser de confiança	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Considero que a informação contida na publicidade deve ser sincera	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Considero que a informação contida na publicidade deve ser segura	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Considero que a publicidade deve fornecer-me informação útil	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acredito que receber publicidade através de um assistente de voz inteligente será uma experiência agradável	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acredito que receber publicidade através de um assistente de voz inteligente poderá poupar-me tempo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
No geral, considero que receber publicidade através de um assistente de voz inteligente será útil	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acredito que receber publicidade através de um assistente de voz inteligente fará sentir-me especial	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acredito se receber publicidade através de um assistente de voz inteligente, irei querer partilhar com outras pessoas através das minhas redes sociais	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Associe agora as características mencionadas à possibilidade de receber publicidade através de um assistente de voz inteligente, avalie numa escala de "Discordo totalmente" a "Concordo totalmente", qual o seu nível de concordância com as afirmações abaixo:

	1. Discordo totalmente	2	3	4. Nem concordo nem discordo	5	6	7. Concordo totalmente
Considero que receber publicidade através de um assistente de voz inteligente seria interessante	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Considero que o processo de receber publicidade através de um assistente de voz inteligente seria engraçado	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Considero que me iria divertir ao receber publicidade através de um assistente de voz inteligente	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Considero a possibilidade de receber publicidade através de um assistente de voz inteligente uma boa ideia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Considero que receber publicidade através de um assistente de voz inteligente iria trazer-me benefícios	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Considero que teria sentimentos positivos relativamente a receber publicidade através de um assistente de voz inteligente	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sinto-me bem com a possibilidade de receber publicidade através um assistente de voz inteligente	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Estaria disposto a receber publicidade através de um assistente de voz inteligente	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gosto da possibilidade de receber publicidade através de um assistente de voz inteligente	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Género

Masculino

Feminino

Prefiro não responder

Faixa Etária

Menos de 18

18-24

25-34

35-44

45-54

55-64

65-74

75 ou mais

Grau de Escolaridade

Ensino Básico	<input type="radio"/>
Ensino Secundário	<input type="radio"/>
Licenciatura (ou equivalente)	<input type="radio"/>
Pós-graduação	<input type="radio"/>
Mestrado	<input type="radio"/>
Doutoramento	<input type="radio"/>

Situação Profissional

Estudante	<input type="radio"/>
Trabalhador-Estudante	<input type="radio"/>
Trabalhador	<input type="radio"/>
Desempregado	<input type="radio"/>
Reformado	<input type="radio"/>

Appendix B – Pre-test results

Table 8 - Reliability test (pre-test)

Reliability Analysis		
Variable	Cronbach alpha	N° of items
Perceived Ease of Use	.850	4
Perceived Usefulness	.850	4
Perceived Functionality of Advertising	.884	12
Perceived Format of Advertising	.927	7
Perceived Relevance of Advertising	.934	6
Informativeness	.915	6
Hedonic Motivation	.949	3
Perceived Value of Advertising	.950	6
Perceived Trust of Advertising	.951	5
Advertising Acceptance	.948	3

Appendix C – Sample characterization results*Table 9 - Knowledge frequency*

		Do you know what a Smart Speaker is?			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	258	78.4	78.4	78.4
	No	71	21.6	21.6	100.0
Total		329	100.0	100.0	

Table 10 - Interaction frequency

		Have you ever interacted with a Smart Speaker?			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	217	66.0	66.0	66.0
	No	112	34.0	34.0	100.0
Total		329	100.0	100.0	

Table 11 - Ownership frequency

		Do you have a Smart Speaker?			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	117	35.6	35.6	35.6
	No	212	64.4	64.4	100.0
Total		329	100.0	100.0	

Table 12 - Gender frequency

		Gender			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	119	36.2	36.2	36.2
	Male	210	63.8	63.8	100.0
Total		329	100.0	100.0	

Table 13 - Age frequency

		Age			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<18	4	1.2	1.2	1.2
	18-24	99	30.1	30.1	31.3
	25-34	68	20.7	20.7	52.0
	35-44	50	15.2	15.2	67.2
	45-54	69	21.0	21.0	88.1
	55-64	38	11.6	11.6	99.7
	>65	1	.3	.3	100.0
	Total	329	100.0	100.0	

Table 14 - Education frequency

		Education			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Basic Education	1	.3	.3	.3
	High School Degree	107	32.5	32.5	32.8
	Bachelor's Degree	121	36.8	36.8	69.6
	Post-Graduation	21	6.4	6.4	76.0
	Master's Degree	76	23.1	23.1	99.1
	Doctoral Degree	3	.9	.9	100.0
	Total	329	100.0	100.0	

Table 15 - Professional Situation frequency

		Professional Situation			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Student	71	21.6	21.6	21.6
	Student-Worker	37	11.2	11.2	32.8
	Employed	208	63.2	63.2	96.0
	Unemployed	7	2.1	2.1	98.2
	Retire	6	1.8	1.8	100.0
	Total	329	100.0	100.0	

Gender: Knowledge, Interaction and Ownership

Table 16 - Gender independent sample t-test

		Independent Sample Test								
		Levene's Test for Equality of Variances		test-t for Equality of Mean						
		Z	Sig.	t	df	Sig. (2-tailed)	Mean difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Do you know what a Smart Speaker is?	Equal variances assumed	.031	.860	.089	327	.929	.004	.047	-.089	.097
	Equal variances not assumed			.089	243.370	.930	.004	.047	-.089	.098
Have you ever interacted with a Smart Speaker?	Equal variances assumed	1.549	.214	-.606	327	.545	-.033	.055	-.140	.074
	Equal variances not assumed			-.610	249.801	.542	-.033	.054	-.140	.074
Do you have a Smart Speaker?	Equal variances assumed	4.325	.038	-1.121	327	.263	-.062	.055	-.170	.047
	Equal variances not assumed			-1.109	237.476	.269	-.062	.056	-.171	.048

Age: Knowledge, Interaction and Ownership

Table 17 - Age ANOVA

ANOVA						
		Sum of Squares	df	Mean Square	Z	Sig.
Do you know what a Smart Speaker is?	Between Groups	3.501	6	.583	3.601	.002
	Within Groups	52.177	322	.162		
	Total	55.678	328			
Have you ever interacted with a Smart Speaker?	Between Groups	2.247	6	.375	1.684	.124
	Within Groups	71.625	322	.222		
	Total	73.872	328			
Do you have a Smart Speaker?	Between Groups	1.824	6	.304	1.330	.243
	Within Groups	73.568	322	.228		
	Total	75.392	328			

Education: Knowledge, Interaction and Ownership

Table 18 - Education ANOVA

ANOVA						
		Sum of Squares	df	Mean Square	Z	Sig.
Do you know what a Smart Speaker is?	Between Groups	1.491	5	.298	1.777	.117
	Within Groups	54.187	323	.168		
	Total	55.678	328			
Have you ever interacted with a Smart Speaker?	Between Groups	1.578	5	.316	1.381	.231
	Within Groups	73.814	323	.229		
	Total	75.392	328			
Do you have a Smart Speaker?	Between Groups	1.160	5	.232	1.030	.400
	Within Groups	72.713	323	.225		
	Total	73.872	328			

Professional Situation: Knowledge, Interaction and Ownership

Table 19 - Professional Situation ANOVA

		ANOVA				
		Sum of Squares	df	Mean Square	Z	Sig.
Do you know what a Smart Speaker is?	Between Groups	.767	4	.192	1.131	.342
	Within Groups	54.911	324	.169		
	Total	55.678	328			
Have you ever interacted with a Smart Speaker?	Between Groups	1.353	4	.338	1.480	.208
	Within Groups	74.039	324	.229		
	Total	75.392	328			
Do you have a Smart Speaker?	Between Groups	2.059	4	.515	2.323	.057
	Within Groups	71.813	324	.222		
	Total	73.872	328			

Appendix D – PLS Algorithm results

Table 20 - Model Fit

	Saturated Model	Estimated Model
SRMR	.056	.071
d_ULS	3.386	5.419
d_G	1.362	1.424
Chi-Square	2552.927	2604.634
NFI	.809	.806

Table 21 - Multicollinearity Statistics (VIF)

	VIF
ACC1	4.880
ACC2	7.379
ACC3	6.554
FORMAT1	2.510
FORMAT10	3.105
FORMAT2	2.032
FORMAT3	2.496
FORMAT4	2.517
FORMAT5	2.380
FORMAT6	2.506
FORMAT7	2.099
FORMAT8	2.704
FORMAT9	2.683
FUNC1	2.172
FUNC2	3.304
FUNC3	3.252
FUNC4	2.267
FUNC5	1.714
FUNC6	2.146
FUNC7	1.903
HM1	2.721
HM2	4.425
HM3	3.213
INFO1	3.225
INFO2	3.709
INFO3	2.887
INFO4	3.789
RELEVANCE1	1.915
RELEVANCE2	2.226
RELEVANCE3	2.382
RELEVANCE4	2.284
SSPEOU1	2.017
SSPEOU2	2.156
SSPEOU3	2.304
SSPEOU4	1.664
SSPU1	2.193
SSPU2	2.683
SSPU3	3.150
SSPU4	2.766
TRUST1	3.886
TRUST2	6.300
TRUST3	5.214
TRUST4	3.312
VALUE1	1.321
VALUE2	1.655
VALUE3	1.794

Appendix E – Bootstrapping results

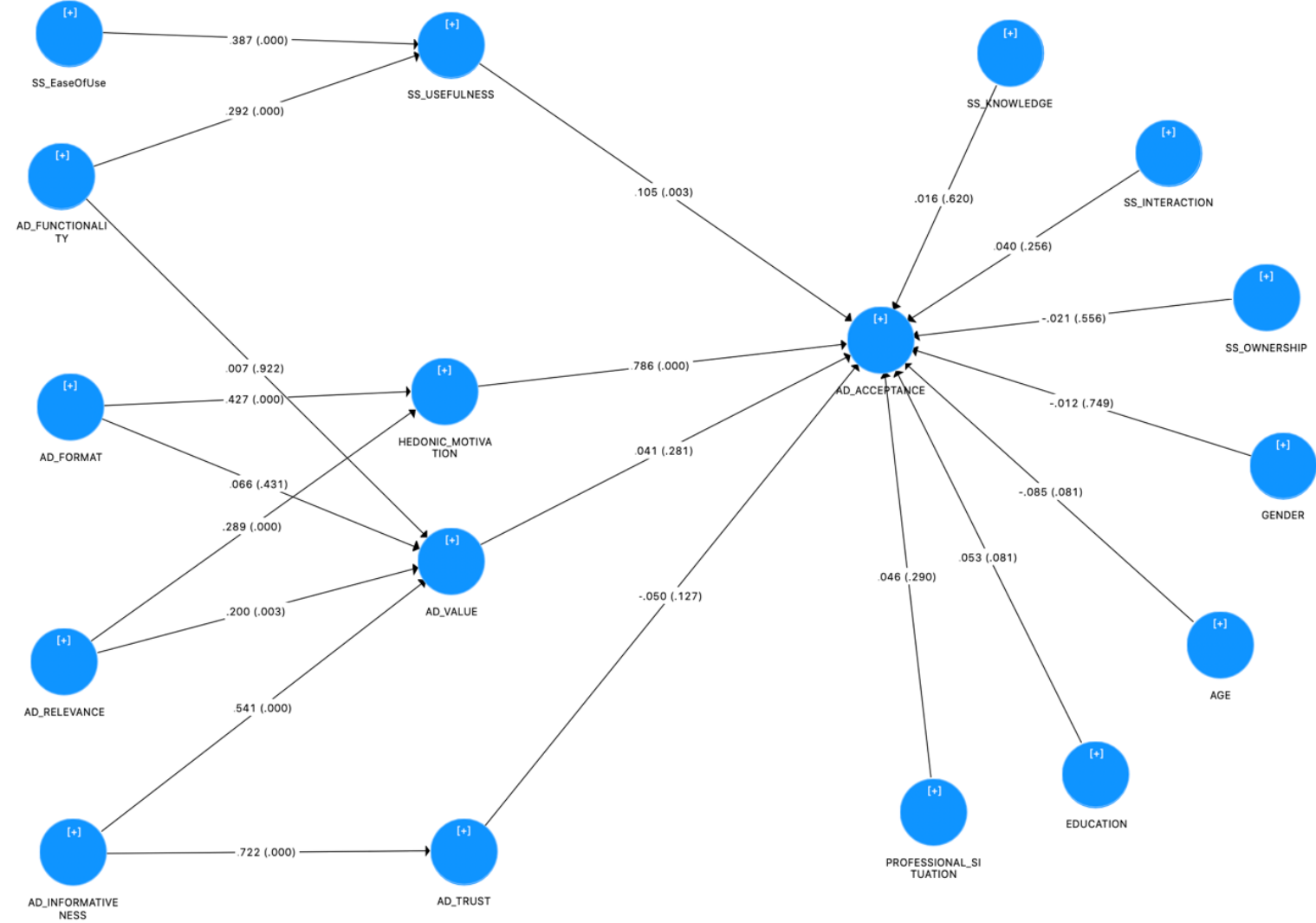
Table 22 - Outer Loadings and p-values

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
ACC1 <- AD_ACCEPTANCE	.951	.951	.008	122.638	.000
ACC2 <- AD_ACCEPTANCE	.968	.968	.005	197.307	.000
ACC3 <- AD_ACCEPTANCE	.963	.964	.006	167.121	.000
FORMAT1 <- AD_FORMAT	.741	.740	.038	19.354	.000
FORMAT10 <- AD_FORMAT	.860	.861	.017	50.005	.000
FORMAT2 <- AD_FORMAT	.728	.728	.028	25.633	.000
FORMAT3 <- AD_FORMAT	.764	.762	.033	23.281	.000
FORMAT4 <- AD_FORMAT	.767	.764	.039	19.902	.000
FORMAT5 <- AD_FORMAT	.795	.795	.033	24.056	.000
FORMAT6 <- AD_FORMAT	.811	.811	.023	35.117	.000
FORMAT7 <- AD_FORMAT	.751	.749	.036	21.046	.000
FORMAT8 <- AD_FORMAT	.809	.809	.027	29.846	.000
FORMAT9 <- AD_FORMAT	.827	.827	.024	34.008	.000
FUNC1 <- AD_FUNCTIONALITY	.718	.715	.044	16.252	.000
FUNC2 <- AD_FUNCTIONALITY	.826	.827	.031	26.369	.000
FUNC3 <- AD_FUNCTIONALITY	.856	.855	.018	46.598	.000
FUNC4 <- AD_FUNCTIONALITY	.811	.812	.025	33.043	.000
FUNC5 <- AD_FUNCTIONALITY	.735	.735	.033	22.287	.000
FUNC6 <- AD_FUNCTIONALITY	.768	.768	.030	25.959	.000
FUNC7 <- AD_FUNCTIONALITY	.727	.727	.035	21.021	.000
HM1 <- HEDONIC_MOTIVATION	.905	.906	.012	76.990	.000
HM2 <- HEDONIC_MOTIVATION	.948	.949	.007	132.247	.000
HM3 <- HEDONIC_MOTIVATION	.909	.910	.015	62.073	.000
INFO1 <- AD_INFORMATIVENESS	.910	.907	.018	50.172	.000
INFO2 <- AD_INFORMATIVENESS	.916	.913	.023	39.751	.000
INFO3 <- AD_INFORMATIVENESS	.889	.886	.028	31.492	.000
INFO4 <- AD_INFORMATIVENESS	.923	.921	.017	52.945	.000
RELEVANCE1 <- AD_RELEVANCE	.795	.795	.033	24.445	.000
RELEVANCE2 <- AD_RELEVANCE	.852	.852	.020	41.558	.000
RELEVANCE3 <- AD_RELEVANCE	.866	.866	.016	53.225	.000
RELEVANCE4 <- AD_RELEVANCE	.846	.845	.021	40.843	.000
SSPEOU1 <- SS_EaseOfUse	.826	.825	.026	31.646	.000
SSPEOU2 <- SS_EaseOfUse	.807	.807	.035	23.090	.000
SSPEOU3 <- SS_EaseOfUse	.835	.834	.026	32.637	.000
SSPEOU4 <- SS_EaseOfUse	.853	.854	.015	55.170	.000
SSPU1 <- SS_USEFULNESS	.859	.859	.018	48.605	.000
SSPU2 <- SS_USEFULNESS	.886	.886	.013	66.054	.000
SSPU3 <- SS_USEFULNESS	.899	.898	.019	47.515	.000
SSPU4 <- SS_USEFULNESS	.879	.879	.019	46.796	.000
TRUST1 <- AD_TRUST	.923	.922	.019	47.997	.000
TRUST2 <- AD_TRUST	.955	.953	.013	74.307	.000
TRUST3 <- AD_TRUST	.940	.937	.018	51.215	.000
TRUST4 <- AD_TRUST	.899	.897	.033	27.185	.000
VALUE1 <- AD_VALUE	.740	.736	.040	18.712	.000
VALUE2 <- AD_VALUE	.821	.821	.024	34.233	.000
VALUE3 <- AD_VALUE	.881	.881	.015	58.362	.000

Table 23 - Path coefficients and p-values

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	p-values
AD_FORMAT → AD_VALUE	.066	.066	.095	.702	.483
AD_FORMAT → HEDONIC_MOTIVATION	.427	.432	.070	6.092	.000
AD_FUNCTIONALITY → AD_VALUE	.007	.013	.076	.092	.927
AD_FUNCTIONALITY → SS_USEFULNESS	.292	.295	.063	4.601	.000
AD_INFORMATIVENESS → AD_TRUST	.722	.723	.064	11.331	.000
AD_INFORMATIVENESS → AD_VALUE	.541	.534	.055	9.746	.000
AD_RELEVANCE → AD_VALUE	.200	.200	.065	3.090	.002
AD_RELEVANCE → HEDONIC_MOTIVATION	.289	.285	.076	3.793	.000
AD_TRUST → AD_ACCEPTANCE	-.050	-.052	.031	1.629	.104
AD_VALUE → AD_ACCEPTANCE	.036	.038	.038	.932	.352
HEDONIC_MOTIVATION → AD_ACCEPTANCE	.774	.773	.032	24.407	.000
SS_EaseOfUse → SS_USEFULNESS	.387	.390	.052	7.484	.000
SS_USEFULNESS → AD_ACCEPTANCE	.107	.108	.038	2.829	.005

Figure 4 - Control variables effects



Appendix F – PLS Algorithm Indirect effects*Table 24 - Total indirect effects*

	ACC	FORMAT	FUNC	INFO	REL	TRUST	VALUE	HM	SSPEOU	SSPU
ACC										
FORMAT	.333									
FUNC	.031									
INFO	-.017									
REL	.231									
TRUST										
VALUE										
HM										
SSPEOU	.041									
SSPU										

Table 25 - Specific indirect effects

	Specific Indirect Effects
INFO → TRUST → ACC	-.036
FORMAT → VALUE → ACC	.000
FUNC → VALUE → ACC	.002
INFO → VALUE → ACC	.007
REL → VALUE → ACC	.019
FORMAT → HM → ACC	.031
REL → HM → ACC	.041
FUNC → SSPU → ACC	.224
SSPEOU → SSPU → ACC	.331

Appendix G – Bootstrapping Indirect Effects

Table 26 - Total indirect effects (complete)

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
FORMAT → ACC	.333	.331	.055	6.070	.000
FORMAT → VALUE					
FORMAT → HM					
FUNC → ACC	.031	.034	.013	2.349	.019
FUNC → VALUE					
FUNCT → SSPU					
INFO → ACC	-.017	-.017	.019	.883	.377
INFO → TRUST					
INFO → VALUE					
REL → ACC	.231	.231	.060	3.820	.000
REL → VALUE					
REL → HM					
TRUST → ACC					
VALUE → ACC					
HM → ACC					
SSPEOU → ACC	.041	.043	.015	2.831	.005
SSPEOU → SSPU					
SSPU → ACC					

Table 27 - Specific indirect effects

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
INFO → TRUST → ACC	-.036	-.036	.024	1.486	.138
FORMAT → VALUE → ACC	.002	.002	.005	.434	.665
FUNC → VALUE → ACC	.000	.001	.004	.068	.946
INFO → VALUE → ACC	.019	.019	.024	.816	.415
REL → VALUE → ACC	.007	.007	.009	.774	.439
FORMAT → HM → ACC	.331	.329	.055	6.040	.000
REL → HM → ACC	.224	.223	.060	3.701	.000
FUNC → SSPU → ACC	.031	.033	.013	2.416	.016
SSPEOU → SSPU → ACC	.041	.043	.015	2.831	.005