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Journal Statement

International Journal of Marketing, Innovation and Strategy (IJMIS) is an open access double-blind peer-reviewed scientific journal which publishes original, high-quality theoretical and empirical research focusing on the fields of marketing, innovation and strategy. All articles published in IJMIS must provide a significant contribution to these fields and focus on topics that are new and advance the current state of scientific knowledge in marketing, innovation and strategy.

Topics

Specific attention will be given to:

- business reorientation as a result of Covid-19 pandemics;
- consumer behaviour & market research;
- data science, artificial intelligence, machine learning, social media strategy, marketing and business intelligence;
- destination marketing and niche tourism;
- digital / integrated communication, advertising and promotion;
- entrepreneurship, competitiveness and innovation in small and medium-sized companies;
- innovative approaches to teaching & learning in marketing, innovation and strategy;
- open innovation, business models and business model innovation;
- social marketing, corporate social responsibility and circular economy;
- other topics in marketing, innovation and strategy.

Conceptual articles are welcomed, using systematic literature review methodology or bibliometrics, as well as empirical articles focusing on case study methodologies, netnography, surveys, sentiment analysis, online naturalising inquiry and cross-sectional or time-series analyses based on secondary data sources.

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Editorial

Volume 1, Issue 1

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Editorial

A New Journal: Do We Really Need It?

And yet another journal. That is what some readers may think when starting to read this editorial. With so many scientific publications and such a difficult path to be recognized in the fields, one may think that a new scientific journal would be an utopian project.

We believe it is not. On the international scene, scientific journals focusing on marketing, innovation and strategy are quite rare, notwithstanding the overlaps of the three research areas. On May 22, 2023, we performed a search on ISI Web of Science, Current Contents, looking at the papers published between 2018 and 2022, with marketing AND innovation AND strategy in Topic, and filtered the results on Business Economics and kept only Articles, Review Articles and Editorial Material.

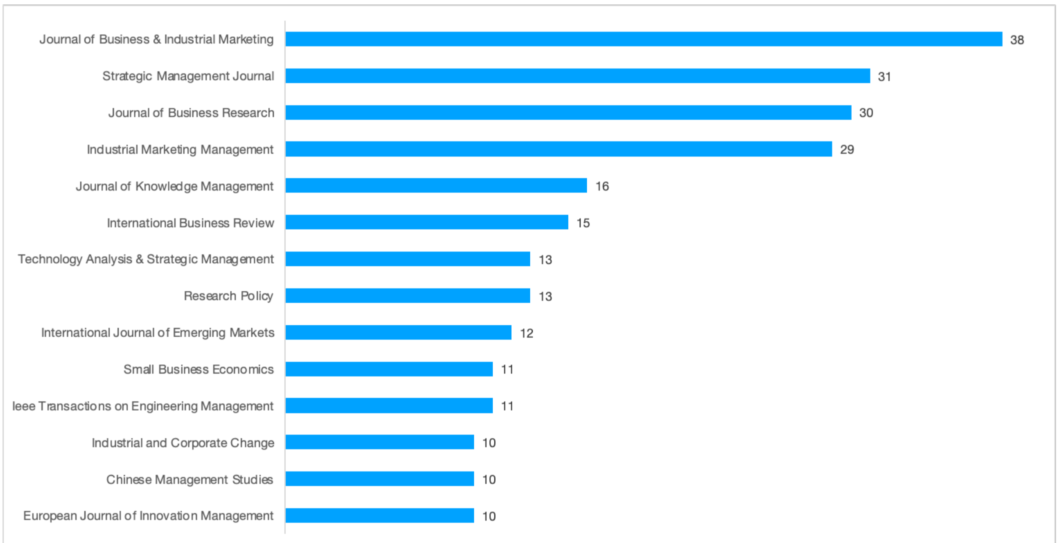

Figure 1 – Distribution of number of publications per journal

Source: Own elaboration

The results were no less than impressive: a total of 1.744 publications on the topic with an increasing trend since 2019. And we only looked at a five-year period. The most prolific author, Sacha Kraus, published 11 articles in this period and only from authors affiliated with the Copenhagen Business School, 31 articles have been published. As seen in Figure 1, Journal of Business Industrial Marketing published a total of 38 publications, followed closely by Strategic Management Journal (31 publications), Journal of Business Research (30 publications) and Industrial Marketing Management (29 publications).

Figure 2 – Word Frequency Map: Abstracts

Source: Own elaboration

When analyzing the most frequent words in the abstracts (see Figure 2), the different research topics emerge. Firms, markets, business, strategy, innovativeness, industry, product, service, knowledge, competitiveness, platforms, data and technology.

Our new journal, IJMIS – International Journal of Marketing, Innovation and Strategy focuses on these topics, yet also dwells deeper in topics like communication, tourism, social marketing, circular economy, entrepreneurship and business reorientation due to contextual change. More specifically, the preferred topics are:

- business reorientation as a result of Covid-19 pandemics;
- consumer behaviour & market research;
- data science, artificial intelligence, machine learning, social media strategy, marketing and business intelligence;
- destination marketing and niche tourism;
- digital / integrated communication, advertising and promotion;
- entrepreneurship, competitiveness and innovation in small and medium-sized companies;
- innovative approaches to teaching & learning in marketing, innovation and strategy;
- open innovation, business models and business model innovation;
- social marketing, corporate social responsibility and circular economy;
- other topics in marketing, innovation and strategy.

For all interested authors, conceptual articles are welcomed, using systematic literature review methodology or bibliometrics, as well as empirical articles focusing on case study methodologies, netnography, surveys, sentiment analysis, online naturalising inquiry and cross-sectional or time-series analyses based on secondary data sources.

The Very First Issue

The first issue of the first volume of our journal presents you a collection of five articles related to the digital world.

Luzia Arantes opens the issue with the perception of consumers on digital marketing and sustainability. More specifically, it focuses on the relationship between digital marketing, its tools and the presence on social networks by brands with online sustainability communication. By means of a questionnaire-based survey, the author uses structural equation modelling. Results indicate the existence of a relationship between digital marketing and the communication of sustainability through digital.

The second article is written by Joana Sofia Boucinha Santos and Ana Pinto de Lima, and analyzes the new online consumption habits resulting from the Covid-19 pandemic. Once again, a quantitative study implemented using a questionnaire-based survey. Results indicate that consumers changed their consumption habits in terms of proportion, amount spent on online purchases and payment methods. Changes were also noticed in the purchasing behavior of certain categories of products during the Covid-19 pandemic.

The third article belongs to Anabela Maria Bello de Figueiredo Marcos and Mariana Martinho Leira, who dive into the topic of the drivers of social media adoption in B2B markets. Based on data collected from workers from B2B companies, a structural equations model was used to test the relationships among the variables learning, memorability, absence of errors, usability, functionality, social influence, satisfaction, trust, and social media adoption. Different drivers influence social media usability, trust in social media and social media usefulness. Satisfaction with social media is achieved through greater ease of use, usefulness, and trust. When social media users are satisfied, are subject to social influence, and judge social media to be usefulness, they tend to adopt social media.

Sara Santos, Pedro Espírito Santo and Luísa Augusto present us an article focused on word-of-mouth antecedents of city residents, in the context of gender differences. Using a cross-sectional study, the authors identify that infrastructure, atmosphere, and perceived psychological well-being positively influence citizens' word-of-mouth.

Our first issue ends with an article on the relationship of online trust with Consumer Generated Media, more specifically the case of Booking. Sandrina Teixeira, Ana Sofia and Ana Pinto de Lima develop a quantitative analysis utilizing a questionnaire-based survey based on the Trust Building Model and take into account three categories: website-based, company-based, and customer-based antecedents. Results indicate that perceived source credibility, information quality, perceived website quality, user satisfaction with previous experiences, and user experience and knowledge are the antecedents that affect online trust in the studied case.

Final Thoughts

All big endeavours start with the first step. And that step was made today.

We begin this journey with hope and responsibility. Hope that we'll be able to keep up the rhythm and lead IJMIS into the future quality publications in the field. And responsibility to ensure the quality is maintained and improved along the years.

We thank all the authors who submitted articles for the first issue. We thank all the members of our editorial team and our community, who received today a new journal, in open source, that will disseminate knowledge related to marketing, innovation and strategy.

May you follow us in the following years, as readers, authors or reviewers. We will do our best to keep you engaged.

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Digital marketing and sustainability:
a study on consumer perceptions

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Abstract

The use of digital marketing to promote sustainability is a controversial topic, as it can be complex to associate a set of strategies aimed at encouraging consumption with environmental sustainability. Nevertheless, digital marketing allows us to reach consumers globally and the promotion of sustainability is urgent in our society at a global level. In this line of thinking, this study aims to investigate the relationship between digital marketing, its tools and the presence on social networks by brands with online sustainability communication and, thus, test the proposed structural model. In this sense, in the empirical part, a questionnaire survey was conducted with 423 participants, 149 (35.2%) men, 273 (64.5%) women and 1 (0.2%) participants of another gender, with an average age of 42.74% (SD = 15.94%), who responded to measures aimed at evaluating the presence of brands on social networks, the use of digital marketing by organizations, the importance attached to digital marketing tools and online sustainability communication. After performing the path analysis, the validation, or not, of the five research hypotheses formulated is presented. The results obtained indicate the existence of a relationship between digital marketing and the communication of sustainability through digital. Subsequently, practical examples of the use of digital marketing, its tools and social networks to promote sustainability and communicate it better are discussed.

Keywords: Digital marketing, Digital perspectives, Social networks, Consumer behavior, Sustainability, Climate change

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1. Introduction

Despite the growing importance attached to digital marketing by organizations (Man, 2020) and the constant warnings about climate change and, in turn, the need to foster the adoption of sustainable behaviors by individuals (Intergovernmental Panel on Climate Change, 2022), there is still scarce research that addresses the use of digital marketing tools to promote sustainability. In this sense, the present study aims to contribute to this gap in the scientific community, as well as an opportunity for innovation and business strategy for the future.

The purpose of this study is to investigate the relationship between digital marketing, its tools and the presence of brands on social networks with the communication of sustainability online and thus test the proposed structural model. In this line of thought, research hypotheses were defined with the objective of defining the possible relationships between the constructs present in the study and measures were also defined that aim to assess the presence of brands on social networks, the use of digital marketing by organizations, the importance attributed to digital marketing tools and online sustainability communication.

For this study development, questionnaire surveys were used, where it was possible to obtain 423 participants for three months period, more specifically between January 28, 2022 and April 28, 2022. The obtained results allowed to test the structural model and to perform a path analysis which allowed to confirm the hypotheses under study, as well as to prove the model's adequacy to the data.

This article consists of six main sections. After the present introduction, the second section is dedicated to the literature review, which summarizes the contributions on digital marketing and its tools, social networks and the communication of sustainability. Subsequently, the third section presents the methodology of this study, section four consists of the analyses performed and section five presents the results obtained, as well as the discussion of them. The article ends with the conclusion, the main limitations, and suggestions for future research.

2. Literature review and research

In this section, the theoretical framework that supports the formulated research hypotheses and the relations between the constructs present in the structural model is summarized. Digital marketing strategies are increasingly relevant for brands and organizations to remain competitive among the market offer those consumers have available, in turn, the use of social networks is part of this strategy, as a space of relationship between the parties. Nevertheless, digital marketing and social networks should also be used for the development of sustainable communication aimed at fostering the adoption of sustainable behaviors by consumers.

2.1. Digital marketing and its tools

Digital marketing allows you to attract and interact with customers through digital platforms and thus retain them and increase sales (Kannan & Hongshuang, 2017), therefore, digital marketing can be presented as the use of digital technologies that allow the implementation of marketing strategies, thus improving the knowledge of organizations towards their audiences and better meet their needs (Chaffey & Smith, 2013).

Thus, digital marketing can be understood as “any and all company marketing actions directed at the online environment. This action may involve the purchase decision of a consumer on the internet, the dissemination of new products/services or even the strengthening of a brand's positioning on social networks” (Silva et al., 2020, p.66). In fact, the internet is an extremely powerful tool for brands and organizations, which influences prices, product distribution, and promotion strategies (Bala & Verma, 2018).

Digital marketing tools have been developed, as well as ways to measure the strategies applied by brands and organizations, such as the website, mobile marketing (e.g., apps, QR-codes, SMS), e-mail marketing (e.g., newsletter), social media, search engine marketing (e.g., web master tools, Google Ads), content marketing (e.g., white papers, videos, documents), marketing analytics (e.g., Google Analytics, Social Bakers, among others (Bala & Verma, 2018). In this sense, the following hypothesis was formulated:

Hypothesis 1: Organizations' use of digital marketing is estimated to be directly related to the importance placed on digital marketing tools.

2.2. Sustainability communication

Due to climate change, exploitation of limited natural resources, use of fossil fuels, among other aspects, an awareness of climate change and its effect on humans, the environment and ecosystems has developed, the continued use of fossil fuels and the risks posed by behaviors of the present generations will have in future generations. In this sense, the term sustainability is increasingly recurring and as such evokes some ambiguity. In this sense, it is important to present a definition of the concept for the present

study.

The term sustainable derives from the Latin “sub-tenēre” and has been used in politics, technology, economics and ecology, as “the ability to achieve current goals without putting futures at risk” (Fabio & Peiró, 2018, p.1), so current generations must frame their development and growth, in a sustainable development considering three dimensions: the economic, the social and the environmental (United Nations, 2015).

Climate change has an increasing impact on human life, in fact there has been an increase in mortality and morbidity, cases of food and water diseases, animal and human diseases, including zoonoses (diseases transmitted to humans through animals), cholera and problems cardiovascular and respiratory events resulting from extreme heat events that have been felt more intensely (Intergovernmental Panel on Climate Change, 2022). Furthermore, the impacts of climate change also occur in ecosystems with the increase of heavy rainfall in some regions causing floods, increased drought in other regions, heat waves, cold or hurricanes (Stevens, et al., 2021), a multitude of extreme events that call into question the survival of humans and ecosystems, for example the increase in rainfall and flooding that allow the increase of climate-sensitive aquatic pathogens and toxic substances from harmful freshwater cyanobacteria, thus increasing the likelihood of new diseases and pandemics (Intergovernmental Panel on Climate Change, 2022).

In this sense, communicating sustainability and fostering the adoption of sustainable behaviors by individuals is increasingly pressing.

The communication of sustainability is relevant because it allows to contribute to the adoption of sustainable behaviors by individuals, in addition, it must contribute to improve the levels of knowledge and awareness of the subject, allowing individuals to access information, education, different points of view and news, in short, the possibility of an active participation of several stakeholders (Shahzalal & Hassan, 2019). This interaction is possible with digital marketing and presence on social networks by brands and organizations.

Based on what was mentioned above, the following research hypothesis was developed:

Hypothesis 2: Organizations' use of digital marketing is estimated to relate directly to online sustainability communication.

Although some authors argue that the use of digital marketing as a tool for fostering sustainability is an antithesis, since digital marketing, as previously presented, focuses on continuous consumption, in the sense of involving and disseminating new products or strengthening the brand in digital media, as opposed to sustainability advocates reuse, reduction of purchases and limits on non-renewable resources (e.g., Jones et al., 2008; Kemper & Ballantine, 2019; Lim, 2016). Nevertheless, digital marketing can contribute to a greater understanding of consumer behavior and persuade their attitudes, behaviors and beliefs directed towards the adoption of sustainable behaviors, or on the other hand, sustainability, product differentiation, access to conscious investors. environmentally and even greater commitment to employees at the environmental level (Diez-Martin et al., 2019), that is, they are two areas that worked together have much to offer each other and, above all, allow environmental awareness for all involved.

In this duality, new technologies affect companies, which drives them to new adaptations, innovations, means of production and ways to generate competitive value. In this sense, social networks play a relevant role, as they allow the possibility of any user to create, share and exchange information and thus a possibility of interaction between various groups such as companies, customers or stakeholders in general (Russo et al., 2021). This way the following hypothesis was formulated:

Hypothesis 2.1: Organizations' use of digital marketing is estimated to indirectly relate to online sustainability communication through the importance placed on digital marketing tools.

2.3. Social media

Brands and organizations quickly realized the importance that social networks occupy in defining their strategies and communicating with consumers, in fact, social networks are an open door to the world where brands and organizations can communicate and relate to millions of people, which entails unlimited market possibilities (Bala & Verma, 2018).

The data indicate, in April 2022, that around 58.7% of the world's population is using social networks, which is equivalent to 6.65 billion people who spend an average of two and a half hours a day on social networks, which is equivalent to 15% of each person's daily time (Data Reportal, 2022). This confirms the need for brands and organizations to be present on social networks since it is the space where consumers spend the most time. Thus, the following research hypothesis is proposed:

Hypothesis 3: Organizations' use of digital marketing is estimated to be directly related to their social media presence.

In fact, there is an increase in social networks and the need for brands and organizations to be present in these networks, thus increasing connectivity and interaction with consumers (Kieling et al., 2022), which also allows the development of strategies

for the communication of sustainability, through actions on “sustainability education, generalized design, digital media and gamification concepts and methods” (Al-Mulla et al., 2022, p. 1). Thus, the following hypothesis will be tested:

Hypothesis 3.1: Organizations' use of digital marketing is estimated to be indirectly related to communicating sustainability online through organizations' social media presence.

3. Methodology

Based on conducted literature review and formulated research hypotheses, a structural model presented in figure 1 is proposed, which aims to clarify the relationships between the dimensions of the structural model.

3.1. Procedure and characterization of the participants

The study was conducted with a convenience sample, not probabilistic. Questionnaire surveys were made available exclusively online during the three-month period, more specifically between January 28, 2022 and April 28, 2022. As a result, the protocol is no longer available after the deadline set for data collection.

At first, the request for informed consent was submitted, which contained the purpose of the study, the voluntary nature of the participation, and the guarantee of confidentiality regarding the analysis of the data and the dissemination of results. Next, the questionnaire on the presence of brands on social networks was presented, followed by the questionnaire on the use of digital marketing by organizations, followed by the questionnaire on the importance attached to digital marketing tools, and the questionnaire on the continuous sustainability communication online and finally the sociodemographic questionnaire was presented.

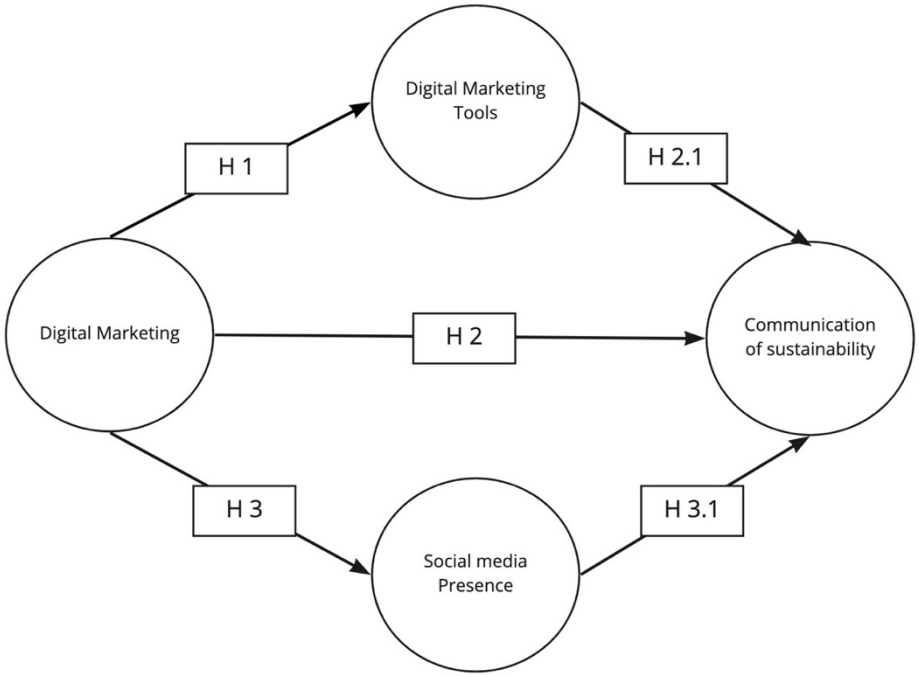

Figure 1 – Proposed Structural Model

Source: (Developed by the author, 2022)

The sample includes 423 participants, 149 (35.2%) men, 273 (64.5%) women and 1 (0.2%) participants of another gender. The age of the participants is between 18 and 73 years, with an average age of 42.74% (SD = 15.94%), 420 (99.3%) of Portuguese nationality, 2 (0.5%) of Brazilian nationality and 1 (0.2%) of Italian nationality. More concretely, according to the geographical regions of mainland Portugal, we can distribute the participants as follows: 174 (41.1%) are from the North region, 114 (27%) are from the Central region, 80 (18.9%) are from the Lisbon Metropolitan Area, 20 (4.7%) 9 are from the Alentejo region, 15 (3.5%) are from the Algarve region , 8 (1.9%) are from the Autonomous Region of the Azores, 5 (1.2%) are from the Autonomous Region of Madeira and 1 (0.2%) from the Abruzzo region of Italy. Regarding marital status 175 (41.4%) are married, 164 (38.8%)

are single, 36 (8.5%) are divorced, 36 (8.5%) are in a de facto union, 4 (0.9%) are separated, similarly 4 (0.9%) are widowed and 4 (0.9%) are in another level of civil commitment. Regarding education, 166 (39.2%) have a doctorate, 100 (23.6%) have a degree, 86 (20.3%) have a master's degree, 38 (9%) have a post-doctoral degree, 31 (7.3%) have a secondary degree, 1 (0.2%) have a specialization and, finally, 1 (0.2%) have a bachelor's degree.

3.2. Instruments

To measure the variables under study, the measures were structured based on the literature review presented previously. To assess the presence of brands on social networks, a scale consisting of four items (e.g., item 1 "Information exchange") was constructed, answered on a Likert-type response scale, between 1 (strongly disagree) to 5 (strongly agree), which for the sample of the present study, presented an index of acceptable internal consistency, according to Cronbach's Alpha (α=.78) presented by Gliem and Gliem (2003). To evaluate the use of digital marketing by organizations, a scale consisting of four items was constructed (e.g., item 1 "Measuring digital marketing results is perceived as very important for the companies"), answered on a Likert-type response scale, between 1 (strongly disagree) to 5 (strongly agree), which for the sample of this study presented good internal consistency index (α=.86). To assess the importance attributed to digital marketing tools, a scale consisting of eight items (e.g., item 2 "Mobile Marketing (app, QR-codes, SMS)") was constructed, answered on a Likert-type response scale, between 1 (very low) to 5 (very high), which for the sample of the present study, showed good internal consistency index (α=.81). To assess sustainability communication online, a scale consisting of six items was constructed (e.g., item 1 "Sustainability must be communicated through digital."), answered on a Likert-type response scale, between 1 (strongly disagree) to 5 (strongly agree), which for the sample of the present study, presented a good internal consistency index (α=.88).

4. Analyses

Statistical analyses were performed using the Statistical Package for the Social Science (IBM SPSS), version 27.0 for Mac and Analysis of Moment Structures (AMOS), version 27.0 for Windows.

Table 1 shows the correlations between the variables under study, the internal consistency indices of the variables of the structural model, for the total sample (n=423), the mean values and the standard deviations. The magnitude of the relations indicates the presence of moderate relations (.30 < r < .50) and strong relations (r >. 50) (Cohen, 1988) between the variables, without the existence of multicollinearity, moreover, the correlations are statistically significant (p < .001), thus fulfilling the linearity assumption.

Table 1 – Correlations between study variables, mean values, standard deviations, and internal consistency indices (N=423)

	Digital marketing	**Sustainability communication**	**Social media**	**M**	**DP**	**α**
Digital Marketing	.	.	.	16.88	2.23	.86
Sustainability communication	.54***	.	.	24.89	3.59	.88
Social media	.40***	.42***	.	14.26	2.83	.78
Digital marketing tools	.51***	.52***	.50***	29.38	4.95	.81

*Note: *** p < .001 Source: (Developed by the author, 2022)*

As it is possible to verify two of the statistical assumptions inherent to structural equation models, namely: (1) absence of multicollinearity (Cohen, 1988); (2) the principle of linearity of relations (statistically significant correlations between the variables, Marôco, 2010); (3) minimum size of the sample between 100 and 200 participants (Schumacker & Lomax, 2010); (4) multivariate normality when sk=ku=0, (Mardia coefficient ≦ 3), which was not verified for the present sample, so when there is a violation of normality, the bootstrapping method with 500 samples and a confidence interval of 95% (e.g. Marôco, 2010; Gilson et al., 2013) and the absence of extreme outliers (Mahalanobis distance < .001), and in the case of the presence of outliers, the analyses were performed without them. The remaining assumptions were met.

Subsequently, multi-group confirmatory analyses were performed to assess the psychometric properties of the measures, and it was possible to verify the adjustment indices of each instrument in table 2.

To assess the fit indices of the measurement instruments, as well as the adjustment indices of the model, we used the following indices: Goodness of Fit Index (GFI) Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA) and Akaike Information Criterion (AIC) (e.g., Gilson et al., 2013; Marôco, 2010).

Bootstrapping analyses were also performed with 500 samples, with a 95% confidence interval (Cheung & Lau, 2007; Marôco, 2010).

Considering the values presented in the table below (table 2), according to Marôco (2010), it is possible to affirm that the questionnaire that aims to evaluate the use of digital marketing by organizations and the questionnaire that aims to evaluate the

communication of sustainability online, without outliers, present GFI and CFI values very good (≥.95) and good RMSEA values (.05 <RMSEA>.10), in turn, the questionnaire that aims to assess the presence on the social networks of brands, without outliers, presents good GFI and CFI values (.90<GFI<.95) and unacceptable RMSEA values (>.10), finally the questionnaire that aims to assess the importance attributed to Digital marketing tools, without outliers, have poor GFI values (.80<CFI<.90), CFI values bad (<.80) and unacceptable RMSEA values (>.10).

Table 2 – Adjustment indexes by measurement instrument (values without outliers)

	GFI	CFI	RMSEA	AIC
Digital Marketing	.99	.99	.10	25.45
Sustainability communication	.98	.99	.07	48.51
Social media	.95	.92	.23	62.19
Digital marketing tools	.84	.73	.16	331.86

*Note: *** p < .001 Source: (Developed by the author, 2022)*

These results made it possible to proceed to the path analysis, which was then performed, to assess whether the structural model presented a good fit to the data and whether the hypotheses defined later were verified, thus confirming the existence, or not, of the proposed relationships between the constructs.

The structural model showed a very good CFI value (≥.95; for the present sample .96), a good GFI value (.90<GFI<.95; for the present sample .90), an unacceptable RMSEA value (>.10; for the present sample .22) and an AIC value of 56.21. Although the RMSEA value is unacceptable, this index is sensitive to the sample size and the complexity of the model (Chen, 2007), in this line of thinking we decided to accept the model based on the CFI, since this is a more robust index (Cheung & Rensvold, 2002).

5. Presentation of results and discussion

The results of the confirmatory factor analyses performed show that the measurement models, without outliers, present a good adjustment to the data, although the instrument that aims to assess the importance attributed to digital marketing tools presents poor CFI values, however it was maintained in the structural model.

Regarding the structural model, a very good fit was found to the data, without outliers (CFI=.96). In a more concrete way, in figure 2, the standardized estimates among the constructs of the final structural model are presented.

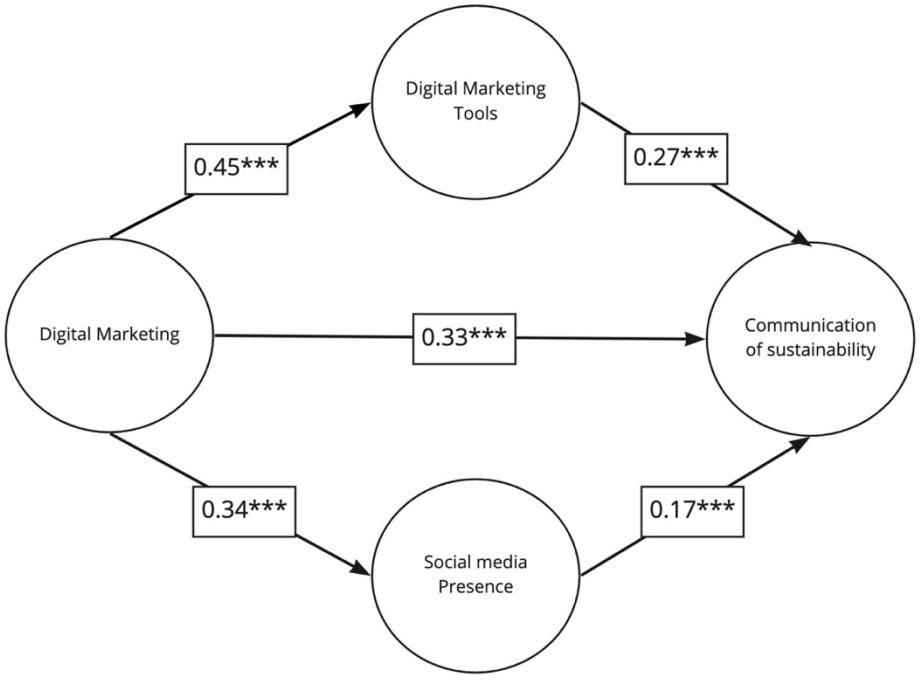

*Figure 2 – Final structural model without outliers (*** p < .001)*

Source: (Developed by the author, 2022)

The results point to statistically significant relationships between the constructs, and it is possible to verify that there is a direct relationship between the use of digital marketing by organizations and the importance attributed to digital marketing tools (β =.45); the use of digital marketing by organizations and the communication of sustainability online (β =.33) and there is also a direct relationship between the use of digital marketing by organizations and the presence on the social networks of brands (β =.34). Regarding indirect effects, it is possible to verify that digital marketing tools act as a mediator between digital marketing and online sustainability communication (β =.12) and that the presence on social networks is a mediator between the use of digital marketing by organizations and the online sustainability communication (β =.06).

In view of these results, it is possible to confirm all the hypotheses initially formulated, as shown in table 3.

Table 3 – Beta values (β) of the hypotheses

Hypotheses	β
Hypothesis 1	.45
Hypothesis 2	.33
Hypothesis 2.1	.12
Hypothesis 3	.34
Hypothesis 3.1	.06

Source: (Developed by the author, 2022)

Nevertheless, hypothesis 3.1 presents the lowest value (β =.06), which can be justified by the type of questions present in the questionnaire about the presence on social networks by organizations, since this questionnaire presents questions such as "The presence of brands on social networks allows... Information exchange" and the questions in the online sustainability communication questionnaire were of the type "Sustainability must be communicated through digital". Nevertheless, social networks allow the conception of individuals without social, geographical and cultural barriers, thus allowing various options of influence of individuals for the adoption of sustainable behaviors, through positive and negative reinforcements, adjustment of norms, feedback, sharing and pushing (Al- Mulla et al., 2022).

Currently, the environmental impacts of the human being are widely discussed, considering the economy, society and the environment, although it is necessary that the use of resources by current generations does not jeopardize the survival and resources for future generations. In this sense, the use of digital marketing allows a clear and direct interaction with all stakeholders, in the sense of, on the one hand, communicating the sustainable behaviors adopted by brands and organizations and, on the other hand, encouraging the adoption of sustainable behaviors by consumers and general population.

Digital marketing has been transforming the way organizations communicate and how they relate with their audiences, and sustainability is a challenge for organizations (Diez-Martin et al., 2019). In this sense, digital marketing can contribute to the understanding of consumer buying behavior, in the sense of influencing decision-making for more sustainable options, working to educate societies about the impacts of climate change at the present time and to make events more concrete futures and close to each one, develop digital marketing strategies on the sustainability of products and the need for reuse and transformation of them that can be measured and adjusted over time (e.g., marketing analytics) or even gaming with the aim of developing competences and environmental awareness through entertainment (Whittaker et al., 2021). On the other hand, sustainability can be seen to differentiate products or services and to improve the production chain (McDonagh & Prothero, 2014).

In short, the participants perceive that the use of marketing is directly related to the importance that digital marketing tools have, for example, it is perceived that the organization's website is very important in its digital marketing strategy. It was also perceived that "sustainability should be communicated through digital" with 357 participants agreeing or totally agreeing with this statement, corresponding to 84% of the participants, which is a relevant data for the communication of sustainability since consumers consider important this communication through this medium, which ends up giving it credibility.

Still, it is relevant to mention the use of greenwashing by organizations as an attempt to convey an image and communication of environmental responsibility that does not happen (Huang et al., 2022). Therefore, it is necessary that organizations have a clear and transparent communication, which allows a direct connection of their economic activities and environmental impacts in a measurable way without second interpretations, so that the various stakeholders do not feel deceived in some way (Stoknes & Rockström, 2018).

4. Conclusion

The purpose of this study was to investigate the relationship between digital marketing, its tools and the presence of brands on social networks with the communication of sustainability online and thus test the proposed structural model, and we can affirm that this purpose was achieved by the conceptual model presented a good fit to the data, in addition, the relationship between the constructs proved to be statistically significant despite the hypothesis 3.1, where it was estimated that the use of digital marketing by organizations is indirectly related to the communication of sustainability online through the presence on social networks by organizations has shown a low value (β =.06).

This study presents as theoretical implications the contribution to the growth of these research areas together and to reaffirm the possibility of using digital marketing to promote sustainability, because although it is controversial to use marketing to communicate and promote sustainability, this research showed that 84% of the participants agree or totally agree with communicating sustainability through digital marketing. From a practical point of view, it is possible to develop digital marketing strategies and campaigns that contribute to sustainability, such as used clothing donation campaigns or clothing recycling campaigns that turn into discounts for customers, on the one hand there is the recycling of clothes by brands and, on the other hand, encouraging consumption, enabling economic growth without consuming new resources.

The study has limitations that must be mentioned to frame the conclusions presented. One of the limitations is the lack of deepening of sustainable consumer behavior in relation to the variables studied, which would be important to explore in future studies.

It would be relevant to repeat the study with a population with low levels of education, because in the present sample 390 participants out of the total of 423 have higher education and therefore, redoing the study with a population with less education would allow an understanding of the influence that the level of education may have adopted from individuals' sustainable behavior and their perspective on sustainable communication. It was also pertinent to reapply the study by generational cohorts and understand the possibility of different views on the use of digital marketing in communication and promotion of sustainability. Finally, a study focused on the use of digital marketing to promote and influence sustainable behaviors, for example the role of digital influencers in sustainability.

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Online consumption habits: before and during the Covid-19 pandemic

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Abstract

The Covid-19 pandemic is already seen as the most transformative and challenging event in our memory. This atypical situation triggered new habits, forms of consumption and trends.

The present study aims to analyze the new online consumption habits resulting from the Covid-19 pandemic. For this purpose, a quantitative methodology is proposed. A questionnaire focusing on new online shopping habits and trends arising from the Covid-19 pandemic was applied, with 618 responses being obtained.

The study shows that, in fact, during the pandemic, consumers changed their consumption habits in terms of proportion, amount spent on online purchases and payment methods. There were also changes in the purchasing behavior of certain categories of products during the Covid-19 pandemic and, it is also noted that some of the trends arising from the pandemic are strongly influenced by sociodemographic characteristics.

This study proves to be relevant, mainly due to the relevance of understanding how the pandemic context can influence the way people live, behave, buy and develop new habits, which may not end during the pandemic. The digital environment becomes even more important to mitigate the effects of the Covid-19 crisis and, probably, we are witnessing the beginning of the digital era more pronounced than ever.

Keywords: Consumer behavior, online shopping, consumption trends, Covid-19 pandemic.

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1. Introduction

In December 2019, China warned about the outbreak of a new infectious disease, like pneumonia, which was renamed Covid-19. In January 2020, the disease began to spread to several countries, so the World Health Organization decided to declare an international emergency. In response to the uncontrollable spread around the world, sudden lockdowns and social distancing policies were established that affected the lives of thousands of people.

This conjuncture triggered new forms of consumption and trends, since consumption is contextual and the context in which we currently live is especially relevant, insofar as it was never perceived. Thus, this crisis provides an excellent opportunity for marketers to examine the interplay between personal and contextual factors. In fact, standardized and indisputable metrics and theories are now being critically questioned, since consumers are faced with a conjuncture of fear and uncertainty never experienced.

Since this is such a current and little explored topic, the literature is not conclusive about the changes in the online shopping behavior of the Portuguese as a result of the pandemic and, as a result, this research is oriented towards the following questions: “What are the online shopping habits before and during the Covid-19 pandemic and what are the main changes observed?” and “How did the Covid-1 9 pandemic trigger new trends and consumption habits?”.

Considering the questions that guide this investigation, the general objective is to analyze trends and new online consumption habits resulting from the Covid-19 pandemic.

The study is divided into 5 topics: the literature review, which contains the relevant concepts for the study, the methodology, where the methodological options that will shape the study objectives are clarified, the results, where it is intended to answer the questions of investigation and discussion of these and the conclusions of the study.

2. Literature Review

2.1. Consumer behavior

Consumer behavior can be defined as the study of how people, groups and organizations select, buy, use and dispose of products, services, ideas or experiences to satisfy their wants and needs (Kotler, 2012).

Narrowing this concept to the online environment, the authors consider that in the online purchase process, when consumers recognize the need to obtain a product or service, they access the Internet and look for necessary information related to the product they are looking for or, sometimes, they are attracted by information about products and services associated with the felt need (Malik & Guptha, 2013).

Also, according to Katawetawaraks and Wang (2013) there are 4 factors that lead consumers to buy online: convenience, available information, available quantity and time and cost savings.

2.2. Perceived ease of use

The relationship between perceived ease of use and consumer behavior is indicated in several lines of research (Luarn & Link, 2005; Hackbarth et al., 2003; Davis, 1989). Ryan and Rao (2008) measure perceived ease of use by being able to find information easily and becoming skilled, savvy and Internet knowledgeable.

2.3. Online purchase motivations

Purchasing motivations, in a simplistic way, can be hedonic or utilitarian. The hedonic dimension is related to joy, excitement for the purchase process itself and, in turn, the utilitarian dimension is related to the cognitive and non-emotional forum (Albayrak, Caber & Çomen, 2016; To, Liao & Lin, 2007).

Martínez-López *et al.* (2014) defined a set of relevant categories for the understanding of utilitarian motivations: assortment (refers to the adequate number of products available), economy (related to competitive prices and promotions), convenience (the ability to buy without leaving home 24 hours a day, 7 days a week), availability of information (since consumers cannot physically touch the product, relevant information must be made available), adaptability or customization (possibility of the consumer to purchase an exclusive product adapted to their needs), desire for control (related to the consumer's freedom to resume, modify or withdraw from a purchase), payment methods (refers to the consumer's freedom to choose the most advantageous payment method for him) and anonymity (the consumer's possibility to express themselves without necessarily having to identify themselves).

Instead, at the level of hedonic motivations, Arnold and Reynold (2003) suggested six broad categories of hedonic motivations: adventure shopping (motivated by stimulation, adventure, and the feeling of being in another world), social shopping (related to the pleasure of shopping with friends and family, socializing while shopping and bonding with others while shopping), reward shopping (related to relieving stress and moodiness and seen as a special treat), buying ideas (with the

objective of following trends and seeing new products and innovations), the purchase of paper (refers to the pleasure that the consumer has in buying for others and the excitement and joy of finding the perfect gift for others) and, finally, the purchase of values (related to finding products at low prices – the so-called bargains, which gives the consumer the feeling of winning a game.

2.4. Online shopping experience

The online shopping experience refers to the process of acquiring products or services through the Internet (Alves, 2015).

In the context of online shopping, customer satisfaction is the result of the consumer's experience after going through all the stages of purchase and depends on the last shopping experiences at a particular company (Afsar *et al*., 2013).

In the research by Corbitt, Thanasankit and Yi (2003), people are more likely to shop on the Internet if they have a higher degree of trust in e-commerce and web usage experience.

There is a positive correlation between satisfaction with an online purchase and the frequency of purchases, which is the most important factor for making a future purchase (Gounaris et al., 2010). The experience goes well when it meets the consumer's expectations, which gives him a sense of satisfaction (Wu & Hsu, 2015).

2.5. Risk perception

The perception of risk is everything that the consumer considers as uncertain in online transactions (Kim, Ferrin & Rao, 2008). Thus, the risk is understood as painful, as it generates feelings of anxiety and discomfort, resulting from the perception of this risk leading to a possible loss (Souza, Mattosinho & Costa, 2009). Its correlation with purchase intention is quite significant (Kolsaker *et al*., 2004). Kim, Ferrin and Rao (2008), through an empirical study, demonstrated that consumer trust directly and indirectly affects their purchase intention. Thus, we perceive that consumer confidence has a strong positive effect on purchase intention and, in turn, a strong negative effect on consumer risk perception. This study also shows that perceived risk reduces purchase intention, while perceived benefit increases purchase intention.

A greater perception of risk is associated with online purchases compared to traditional purchases, since in traditional purchases the consumer can touch, feel and try the product and decide whether or not to buy, reducing the level of perceived risk (Kim, Ferrin & Rao, 2008). Corbitt, Thanasankite and Yi (2003), analyzed the main categories related to perceived risk – performance risk, financial risk, social risk, psychological risk and time-wasting risk. According to the authors, participation in e-commerce is more influenced by motivations such as curiosity, fun and convenience and less by perceived risk.

2.6. Changes in online shopping behavior due to the Covid-19 pandemic

All over the world, societies are closed and citizens are obliged to respect social distancing. The omnipresence of such a threat, the fear and uncertainty that accompanies it leads to new trends and forms of consumption, people are more suspicious and less susceptible (Donthu & Gustafsson, 2020).

Although consumption is habitual, it is also contextual. And the context is relevant when we live. According to Sheth (2020), there are four main contexts that govern or disrupt consumption habits. The first is the change in the social context through life events, such as getting married or moving to another city. The second context is technology, since, as more innovative technologies emerge, they break old habits. The third is rules and regulations, with special emphasis on those related to public and shared spaces, such as the consumption of alcohol by minors. The fourth and least predictable context is natural disasters, such as earthquakes, hurricanes and pandemics, including the Covid-19 pandemic that we are experiencing today.

As social beings, isolation tends to alter our behaviors and feelings of loneliness, worse cognitive performance, negativity, sensitivity are certain natural manifestations (Campbell, 2020).

There is also an increase in more positive behaviors, such as developing new skills, taking care of the house, reading more and concern for the environment, and an increase in more altruistic behaviors, such as buying food for the most vulnerable people. (Donthu & Gustafsson, 2020).

A survey carried out by Ageas Portugal and Eurogroup Consulting Portugal, indicates that the consumption habits of 45% of the Portuguese have changed during the pandemic, and the higher the income, the smaller the changes in consumption (Jornal de Negócios, 2021).

Likewise, Kotler (2020) predicts major changes, since the period of deprivation and anxiety in which we live will usher in new consumer attitudes and behaviors that will change the nature of current capitalism. Citizens will re-examine what they consume, how much they consume and how they are influenced by class and inequality.

Consumer decision making tends to be less rational during crises. In fact, buying is driven purely by interests and emotions such as anger, fear and anxiety. The consumer is trying to control the situation and minimize risk and physical and emotional suffering. There is enormous uncertainty and people are afraid of regretting not buying something and this possible fear leads to

impulse purchases and large quantities of food, hygiene products and medicines (Grohol, 2020; Guardian, 2020, *cit in*, He & Harris, 2020; Novemsky, 2020).

Donthu & Gustafsson (2020) summarized consumer behavior during the pandemic crisis in three phases. The first is to react, such as accumulating and rejecting; the second is coping (e.g. maintaining social connection, interest in new activities and a different view of brands) and lastly, long-term adaptation (e.g. potentially transformative changes in consumption and individual and social identity).

Still within this theme, Sheth (2020) summarized eight immediate effects of the Covid-19 pandemic on consumption and consumer behavior:

- *Accumulation*: consumers are stocking up on essential products for daily consumption, such as toilet paper, bread, meat and disinfection and cleaning products. Accumulation is a common reaction to managing uncertainty;
- *Improvisation*: Consumers learn to improvise when there are constraints. Covid-19 has led to innovative practices such as location-focused alternatives such as online education;
- *Repressed demand*: in times of crisis and uncertainty, the general tendency is to postpone the purchase and consumption of durable and high-cost products, such as automobiles;
- *Adoption of digital technology*: out of sheer necessity, consumers use technology to keep in touch with friends, work, study and even have appointments. The internet is a rich medium and has a global reach;
- *Shop at home*: has implications for impulse consumption and massively increases online shopping and home delivery services, such as Netflix;
- *Limits to working life*: consumers are "prisoners" of their own home, with limited space and, as a consequence, there is a blurring of the boundaries between work and home;
- *Online meetings with friends and family*: option found to ensure they are well or to share stories and experiences;
- *Discovery of talents*: with a flexible schedule at home, consumers try recipes and are interested in new activities, many even go from consumers to producers.

With time flexibility, but location rigidity, consumers tend to adopt technologies to facilitate work, study and consumption more conveniently. The adoption of digital technology will modify existing consumption habits (Sheth, 2020). Consumers were already making online purchases more and more regularly before the pandemic and it only accelerated the structural shift from consumer culture to the online hemisphere (Kim, 2020). A survey carried out by Ageas Portugal and Eurogroup Consulting Portugal proves this, as more than half of the respondents revealed that they had made more purchases online (Jornal de Negócios, 2021). In this perspective and according to a survey, about 52% of consumers avoid going to physical shopping and crowded areas (Bhatti et al., 2020). Also according to data from SIBS Analytics, in January 2021, there was a 37% increase in online purchases compared to the same period in 2020 and the MB Way stands out as one of the preferred payment methods for the Portuguese (increased by 269% in the context of e-commerce and 234% in physical stores) - both consumers and companies (Marketeer, 2021).

Another consequence of confinement is the extreme increase in the use of social networks, especially as it is the main means of contact and socialization with other people in a situation of isolation and to exchange ideas and opinions (Naeem & Ozuem, 2021; Donthu & Gustafsson, 2020; Naeem, 2020).

In the view of He & Harris (2020), there is likely to be a significant shift towards responsible and pro-social consumption, in the sense that consumers consciously reflect on how to consume and make product/brand choices to be more responsible for themselves, others, society and the environment. The issue of buying domestic versus foreign products is not just a matter of quality, availability and cost, but is now seen as an issue related to consumer ethics. Also a study by Dangelico, Schiaroli and Fraccascia (2022), about the buying behavior of Italian consumers, revealed that this catastrophic and unexpected event led consumers to be more concerned about environmental problems, more aware of individual impacts, and to behave more sustainably.

In short, most habits are expected to return to normal. However, it is inevitable that some habits will disappear because the consumer has discovered a more convenient and affordable alternative. Consumers may find it easier to work from home, learn from home and shop at home. What was an alternative has become an existing habit and the existing habit becomes peripheral. There is a universal law of consumer behavior, which is quite relevant in this reflection. When an existing habit or need is abandoned, it always comes back as a recreation or hobby, examples are fishing, hunting and even bread making. It will be interesting to see that existing habits abandoned will come back as hobbies (Sheth, 2020).

3. Methodology

3.1. Data collection instrument

The questionnaire was the data collection technique chosen to understand changes in online shopping behavior due to the Covid-19 pandemic and new habits and trends.

The statistical procedures performed were descriptive and inferential, using the IBM SPSS software, version 27. In order to understand which statistical tests are most appropriate, the asymmetry and kurtosis of all questions were analyzed and the Kolmogorov-Smirnov Test was performed.

The questionnaire is organized into four parts as shown in table 1.

Table 1 – Structure of the questionnaire

	Questions	Scale	Authors, year
Online shopping habits	Understand if the first online purchase occurred during the Covid-19 pandemic.		
	Frequency of online purchases made before and during the Covid-19 pandemic.	Scale of Participation in E-commerce	Corbitt, Thanasankit & Yi, 2003.
	Proportion of online purchases in relation to total purchases made before and during the Covid-19 pandemic.	Scale of Participation in E-commerce	Corbitt, Thanasankit & Yi, 2003.
	Amount spent on online purchases before and during the Covid-19 pandemic.		
	Most used payment methods before and during the Covid-19 pandemic.		
Relationship with new technologies	Internet experience (years).	Internet Consumer Experience Scale	Corbitt, Thanasankit & Yi, 2003.
	Number of hours of weekly Internet use.		Corbitt, Thanasankit & Yi, 2003.
	Ease of use of the Internet.	Ease of Use Perception Scale	Ryan & Rao, 2008.
	Hedonic purchase motivations.	Hedonic Purchase Motivations Scale	Arnold & Reynold, 2003.
	Utility purchase motivations.	Utility Purchase Motivation Scale	Martínez-López *et al.,* 2014.
	Risk perception of online shopping.	Risk Perception Scale	Corbitt, Thanasankit & Yi, 2003.
Issues related to the Covid-19 pandemic	Variation of online purchase of different product categories.		
	Trends arising from the Covid-19 pandemic:		
	a) Accumulation;		Sheth, 2020; Grohol,2020; Guardian,2020; Novembsky,2020.
	b) Improvisation;		Sheth, 2020.
	c) Repressed demand;		Sheth, 2020.
	d) Adoption of digital technology;		Sheth, 2020.
	e) Shop at home;		Sheth, 2020.
	f) Limits to working life		Sheth, 2020.
	g) Online meetings with friends and family;		Sheth, 2020; Donthu & Gustafsson, 2020.
	h) Discovery of talents;		Sheth, 2020; Donthu & Gustafsson, 2020; He & Harris, 2020.
	i) Responsible and pro-social consumption.		He & Harris, 2020.
Sociodemographic issues	Age		
	Gender		
	Civil status		
	Professional occupation		
	Monthly income		
	Completed education level		

Source: Self elaboration.

3.2. Sample

The questionnaire was answered by 618 individuals, the sample being considered for convenience, since the individuals who participated in the study are within reach of the researchers and willing to answer the questionnaire. The universe of reference was the respondents who responded affirmatively to having already made online purchases. Regarding demographic criteria, only being of legal age.

The characterization of the sample is described in table 2.

Table 2 – Demographic characteristics of the sample

Gender	**Masculine**	**Feminine**	**Other / No answer**				
	N=273; 44,2%	N=245; 55,8%	N=0; 0%				
Age	**18 – 24 years**	**25 – 34 years**	**35 – 44 years**	**45 – 54 years**	**55 – 64 years**	**More than 64 years**	
	N=354; 57,3%	N=126; 20,4%	N=69; 11,2%	N=50; 8,1%	N=16; 2,6%	N=3, 0,5%	
Monthly income	**No income**	**Less than 665€**	**665 – 1000€**	**1001 – 1400€**	**1.401 – 1800€**	**More than 1800€**	
	N=191, 30,9%	N=94, 15,2%	N=164; 26,5%	N=87; 14,1%	N=33; 5,3%	N=49; 7,9%	
Professional Occupation	**Student**	**Student worker**	**Employed for someone else**	**Self-employed**	**Unemployed**	**Retired / pensioner**	
	N=193; 31,2%	N=116; 18,8%	N=228; 36,9%	N=44, 7,1%	N=32; 5,2%	N=5, 0,8%	
Civil Status	**Unmarried**	**In a relationship**	**De facto union / married**	**Divorced**	**Widower**		
	N=322; 52,1%	N=194; 24,1%	N=129; 20,9%	N=17; 2,8%	N=1; 0,2%		
Completed education level	**Up to the 4th. year**	**Until the 9th. year**	**Up to the 12th. year**	**Professional Course**	**Graduation**	**Master's degree**	**Doctorate**
	N=1; 0,2%	N=10; 1,6%	N=150; 24,3%	N=38; 6,1%	N=313; 50,6%	N=102; 16,5%	N=4; 0,6%

Source: Self elaboration.

3.3. Reliability

It is important to consider the internal consistency before proceeding with the analysis itself, so the α Cronbach presented are quite satisfactory, as shown in Table 3.

Table 3 – Analysis of the internal consistency of the questionnaire scales

	Alpha de Cronbach
Perceived ease of use	,896
Hedonic purchase motivations	,890
Utilitary purchase motivations	,951
Risk perception	,816
Covid-19 pandemic trends	,821

Source: Self elaboration.

4. Results and answer to the research questions of the study

The data analyzed allowed us to answer the research questions of the study, which are presented below.

1. **What are the online shopping habits before and during the Covid-19 pandemic and what are the main changes observed?**

The study showed that most respondents were already shopping online before the pandemic (90,8%). There was an increase in the number of online purchases, the proportion of online purchases in relation to total purchases and the amount spent on online purchases when comparing the period before the pandemic and during the pandemic, as can be seen in table 4, where they are the answers, most given by the respondents are present.

Table 4 – Number of online purchases, proportion of online purchases and amount spent on online purchases before and during the pandemic

	Before the pandemic	During the pandemic	Comparison between before and during the pandemic
Number of online purchases	1 time (38,2%); 2-3 times (29,8)	2-3 times (35,1%); more than 5 times (24,4%)	Increase in the number of online purchases (49,7%)
Proportion of online purchases in relation to total purchases	1-5% (47,6%)	1-5% (24,1%); 5-10% (25,9%); 10-20% (20,6%); more than 20% (23,9%)	Increase in the proportion of online purchases in relation to total purchases (56,8%)
Amount spent on online purchases	10-30€ (39%)	30-60€ (31,4%)	Increase in the amount spent on online purchases (56,8%)

Source: Self elaboration.

The Pearson Correlations associated with these variables were also analyzed and there was a greater presence of hedonic motivations in the variables during the pandemic and only these correlates with trends arising from the pandemic, as can be seen in Table 5.

In addition, it was also confirmed that there are significant differences in terms of age, gender and income with regard to the number, proportion and amount spent on online purchases.

Table 5 – Pearson's correlation between variables

Criteria Used	H0= R=0 (There is no correlation) ; H1= R ≠ 0 (There is Correlation)Sig < 0,05 Reject H0			
Number of online purchases				
	Before the pandemic		**During the pandemic**	
Risk Perception	-,095*	As the number of online purchases increases, the risk perception decreases and vice versa.	-,089*	As the number of online purchases increases, the risk perception decreases and vice versa.
Hedonic Motivations			,196***	As the number of online purchases increases, hedonic motivations also increase and vice versa.
Utilitarian Motivations	,150***	As the number of online purchases increases, utilitarian motivations also increase and vice versa.	,276***	As the number of online purchases increases, utilitarian motivations also increase and vice versa.
Trends arising from the Covid-19 pandemic			,254***	As the number of online purchases increases, trends arising from the Covid-19 pandemic also increase and vice versa.
Income	,087*	As the number of online purchases increases, the income also increases and vice versa.	,086*	As the number of online purchases increases, the income also increases and vice versa.
Proportion of online purchases in relation to total purchases				
	Before the pandemic		**During the pandemic**	
Perceived ease of use	,174***	As the proportion of purchases increases, the perceived ease of use also increases, and vice versa.	,180***	As the proportion of purchases increases, the perceived ease of use also increases, and vice versa.
Risk Perception	-,139***	As the proportion of purchases increases, the perception of risk decreases and vice versa.	-,182***	As the proportion of purchases increases, the perception of risk decreases and vice versa.
Hedonic Motivations	,158***	As the proportion of purchases increases, hedonic motivations also increase and vice versa.	,261***	As the proportion of purchases increases, hedonic motivations also increase and vice versa.
Utilitarian Motivations	,260***	As the proportion of purchases increases, utilitarian motivations also increase and vice versa.	,258***	As the proportion of purchases increases, utilitarian motivations also increase and vice versa.
Trends arising from the Covid-19 pandemic			,336***	As the proportion of purchases increases, trends arising from the pandemic also increase and vice versa.
Age	-,089*	As the proportion of purchases increases, age decreases and vice versa.		
Income			-,114**	As the proportion of purchases increases, income decreases and vice versa.
Amount spent on online purchases				
Perceived ease of use	,095*	As the amount spent on online purchases increases, perceived ease of use also increases and vice versa.	,091*	As the amount spent on online purchases increases, perceived ease of use also increases and vice versa.
Risk Perception			-,0083*	As the amount spent on online purchases increases, the perception of risk decreases and vice versa.

Amount spent on online purchases				
Hedonic Motivations			,120***	As the amount spent on online purchases increases, hedonic motivations also increase and vice versa.
Trends arising from the Covid-19 pandemic			,255***	As the amount spent on online purchases increases, trends arising from the pandemic also increase and vice versa.
Income	,249***	As the amount spent on online purchases increases, income also increases and vice versa.	,237***	
*The correlation is significant at the level 0,05 (2-tailed) ** The correlation is significant at the level 0,01 (2-tailed) *** The correlation is significant at the level < 0,001 (2-tailed)				

Source: Self elaboration.

Regarding the number of online purchases, it is considered that there are significant differences between genders both before and during the pandemic, which means that the consumer's gender influences the number of times they buy online.

As for the proportion of online purchases, it appears that there are significant differences between ages and genders. In terms of age, there are significant differences both before and during the pandemic, and the difference between young people (from 18 to 34 years old) and older people (55 or more years old) stands out, in turn, in terms of gender. up just before the pandemic. We can see that both age and gender influence the proportion of consumer purchases online.

Finally, in terms of the amount spent on online purchases, there are significant differences between age and income, especially if we compare the group with no/low income (less than 665€) with medium income (between 665€ and €1400€) and high income (over 1400€), and gender both before and during the pandemic, which means that the age, income and gender of the consumer influence the amount they spend on online purchases. The data can be seen in table 6.

Table 6 – Comparison of the sample by age, income and gender in terms of number, proportion and amount spent on online shopping

Criteria Used		Ho= u1=u2 (There are no significant differences between groups); H1: u1≠u2 (There are significant differences between groups); Sig < 0,05 Reject H0.					
		Age		**Income**		**Gender**	
		Z	*p*	Z	*P*	Z	*p*
Number of online purchases	Before the pandemic	1,798	,111	1,293	,293	,038	,048
	During the pandemic	,753	,584	1,592	,160	1,900	,049
Proportion of online purchases in relation to total purchases	Before the pandemic	3,887	,002	,381	,862	1,817	,005
	During the pandemic	2,901	,013	,631	,676	,097	,470
Amount spent on online purchases	Before the pandemic	6,287	<,001	8,644	<,001	13,725	<,001
	During the pandemic	2,557	,027	9,254	<,001	13,641	,024

Source: Self elaboration.

Regarding the payment methods used before and during the pandemic, before the pandemic, the ATM (46,4%) and the credit/debit card (47,4%) stand out. In turn, during the pandemic, the most used methods are the credit/debit card (47,6%) and the MB Way (41,6%)

The main changes observed when comparing the period before the pandemic with that during the pandemic are the substantial decrease in the use of ATMs and cash on delivery. In turn, there is a great growth in the use of the MB Way. The data can be seen in table 7.

Table 7 – Description of payment methods used before and during the Covid-19 pandemic

	Before the pandemic	**During the pandemic**
Paypal	N=136; 22%	N=144; 23,3%
ATM	N=287, 46,4%	N=230, 37,2%
Credit/devit card	N=293, 47,4%	N=294, 47,6%
Against reimbursement	N=25, 4%	N=16, 2,6%
Bank transfer	N=97, 15,7%	N=98, 15,9%
MB Way	N=198, 32%	N=257, 41,6%

Source: Self elaboration.

Finally, when analyzing online shopping behaviors during the pandemic of different categories of products, it is noted that the categories whose respondents began to buy more frequently were home meals (47,1%), fashion (35,6 %), formation (31,9%), footwear and accessories (29,4%), health and beauty (26,5%) and technology (25,1%). As for the remaining sectors, there was also an increase, but with a lower incidence.

In turn, the sectors whose respondents began to buy less frequently during the pandemic were travel/stay (17,6%), leisure/culture/tickets (16,3%) and fashion (15,7%).

As for the sectors whose buying habits have not changed, we highlight cars/car accessories (72,2%), toys (70,4%), home appliances (68,8%), hypermarkets (65,2%) and of home/decoration and garden (63,8%).

In terms of the sectors whose respondents started to buy exclusively during the pandemic, formation (9,9%), fashion (9,5%) and home meals (9,4%) stand out.

Regarding the sectors whose respondents stopped buying exclusively during the pandemic, travel/stay (32,4%) and leisure/culture/tickets (17%) stand out.

The data can be seen in table 8.

Table 8 – Characterization of the purchasing behavior of different product categories during the Covid-19 pandemic

	Started buying more often	Started buying less often	Buying habits have not changed	Started to buy exclusively during the pandemic	Stopped buying exclusively during the pandemic
Travel/stay	N=34; 5,5%	N=109; 17,6%	N=271; 43,9%	N=4; 0,6%	N=200; 32,4%
Hypermarkets	N=134; 21,7%	N=38; 6,1%	N=403; 65,2%	N=25; 4%	N=18; 2,9%
Home/decoration/ garden	N=92; 14,9%	N=67; 10,8%	N=394; 63,8;	N=25; 4%	N=40; 6,5%
Home appliances	N=62; 10%	N=62; 10%	N=425; 68,8%	N=28; 4,5%	N=41; 6,6%
Technology	N=155; 25,1%	N=45; 7,3%	N=346; 56%	N=49; 7,9%	N=23; 3,7%
Formation	N=197; 31,9%	N=41; 6,6%	N=291; 47,1%	N=61, 9,9%	N=28; 4,5%
Car/car accessories	N=36; 5,8%	N=71; 11,5%	N=446; 72,2%	N=10; 1,6%	N=55; 8,9%
Mobile devices/accessories	N=132; 21,4%	N=57; 9,2%	N=357; 57,8%	N=34; 5,5%	N=38; 6,1%
Sport	N=143; 23,1%	N=68, 11%	N=316; 51,1%	N=43; 7%	N=48; 7,8%
Leisure/culture/ tickets	N=74; 12%	N=101; 16,3%	N=307; 49,7%	N=31; 5%	N=105; 17%
Fashion	N=220; 35,6%	N=97; 15,7%	N=211; 34,1%	N=59; 9,5%	N=31; 5%
Footwear and accessories	N=182; 29,4%	N=99; 16%	N=248; 40,1%	N=40; 6,5%	N=39; 6,3%
Home meals	N=291; 47,1%	N=36; 5,8%	N=214; 34,6%	N=58; 9,4%	N=19; 3,1%
Toys	N=41; 6,6%	N=77; 12,5%	N=435; 70,4%	N=22; 3,6%	N=43; 7%
Health and beauty	N=164; 26,5%	N=56; 9,1%	N=335; 54,2%	N=36; 5,8%	N=27; 4,4

Source: Self elaboration.

When analyzing the changes in the number of online purchases during the pandemic, there are significant differences in the categories of hypermarket, home/decor/garden products, technology, formation, fashion, footwear and accessories, home meals, toys and health and beauty.

As for changes in the proportion of online purchases made during the pandemic, the significant differences occur in the same categories mentioned above, minus tech and toys.

In turn, at the level of the amount spent on online purchases during the pandemic, the differences occur in the same categories mentioned above and in mobile devices and accessories.

The data can be seen in table 9.

Table 9 – Comparison of the sample by product category in terms of changes in the number, proportion and amount spent on online purchases during the pandemic

Criteria Used	Ho= u1=u2 (There are no significant differences between groups); H1: u1≠u2 (There are significant differences between groups); Sig < 0,05 Reject H0.					
	Changes to the number of times online purchases		**Changes in the proportion of online purchases**		**Changes in the amount spent on online purchases**	
	Z	*p*	Z	*p*	Z	*p*
Hypermarksts	12,739	<,001	7,503	<,001	10,173	<,001
Home/decoration/garden	5,495	,004	4,626	,010	8,417	<,001
Technology	5,853	,003	2,825	,060	6,349	,002
Formation	4,148	,016	4,473	,012	3,328	,037
Mobile devices/accessories	2,979	,052	1,053	,350	3,313	,037
Sport	5,263	,005	3,591	,028	3,023	,049
Fashion	15,737	<,001	10,707	<,001	10,293	<,001
Footwear and accessories	11,445	<,001	8,884	<,001	8,699	<,001
Home meals	11,377	<,001	6,140	,002	7,922	<,001
Toys	3,800	,023	2,034	,132	3,988	,019
Health and beauty	12,813	<,001	12,506	<,001	8,784	<,001

Source: Self elaboration.

Still within the product categories, it sought to verify whether sociodemographic variables influenced the purchasing habits of product categories during the pandemic.

It was observed that age influences shopping habits during the pandemic in the hypermarket and toys categories. In turn, income influences purchasing habits in the categories of technology, fashion and footwear and accessories and, finally, gender influences purchasing habits in the categories of home appliances, technology, cars and car accessories, mobile devices and accessories, fashion and health and beauty.

The data can be seen in table 10.

Table 10 – Influence of sociodemographic characteristics on online shopping habits of different product categories during the pandemic

Criteria Used	Ho= Are independent; H1= Are not independent; Sig < 0,05 Reject H0.					
	Changes to the number of times online purchases		**Changes in the proportion of online purchases**		**Changes in the amount spent on online purchases**	
	Z	*p*	Z	*p*	Z	*p*
Hypermarksts	-2,235	,026	-1,536	,128	,355	,723
Home appliances	-,961	,337	-1,549	,122	-3,143	,002
Technology	-1,585	,114	-2,918	,004	-4,822	<,001
Cars and car accessories	,837	,403	,710	,478	-2,574	,010
Mobile devices/accessories	,196	,844	,362	,717	-4,068	<,001
Fashion	2,136	,033	3,280	,001	3,474	<,001
Footwear and accessories	1,033	,302	2,166	,031	1,172	,242
Toys	-2,802	,005	-1,634	,101	-1,307	,192
Health and beauty	,871	,384	1,848	0,65	3,790	<,001

Source: Self elaboration.

It was also considered relevant to understand the influence of risk perception and hedonic and utilitarian motivations in the purchase of certain categories of products during the pandemic.

It was found that the perception of risk influences the purchase of products in the technology category.

It is observed that hedonic motivations influence purchases in the categories of home/decoration/garden products, mobile devices and accessories, fashion, footwear and accessories, home meals and health and beauty during the pandemic.

In turn, utilitarian motivations influence purchases in the travel/stay and health and beauty categories.

The data are presented in table 11.

Table 11 – Influence of of risk perception and hedonic and utilitarian motivations on online shopping habits of different product categories during the pandemic

Criteria Used	Ho= Are independent; H1= Are not independent; Sig < 0,05 Reject H0.					
	Risk perception		**Hedonic motivations**		**Utilitarian motivations**	
	Z	*p*	Z	*p*	Z	*p*
Stay/travel	-8,720	,384	,228	,820	2,996	,003
Home/decoration/garden	1,293	,197	-3,000	,003	,135	,893
Technology	2,073	,039	-1,772	,077	-1,798	,073
Mobile devices/accessories	-1,145	,885	-2,665	,008	-1,277	,202
Fashion	-,369	,712	-3,863	<,001	-1,004	,316
Footwear and accessories	-,303	,762	-3,795	<,001	-1,164	,245
Health and beauty	,680	,497	-4,421	<,001	-3,005	,003

Source: Self elaboration.

Finally, we tried to understand if at the level of product categories their indicators of constructs and ideas and there are was an association between 3 groups. The first group related to daily life at home and routine (hypermarket, home/decor/garden products, home appliances and technology). The second group most related to personal care and image (fashion, footwear and accessories and health and beauty) and, finally, the third group, probably the most affected during the pandemic, which includes services more related to leisure and tourism and products with higher monetary value (travel/stay, leisure/culture/tickets, cars and car accessories). The data can be seen in table 12.

Table 12 – Indicators of constructs and ideas in product categories

Criteria Used	Teste KMO and Barlett: ,903 Aprox. Chi-square: 3769,435 GI: 105 p: ,000		
	Group 1	**Group 2**	**Group 3**
Stay/travel			,721
Hypermarkets	,716		
Home/decoration/garden	,655		
Home appliances	,616		
Technology	,660		
Car and car acessories			,656
Fashion		,067	
Leisure/culture/tickets			,662
Footwear and accessories		,836	
Healthy and beauty		,714	

Source: Self elaboration.

2. How did the Covid-1 9 pandemic trigger new trends and consumption habits?

Regarding the new trends arising from the Covid-19 Pandemic, the average value is 4,35, which means that it is between “I neither agree nor disagree” and “I partially agree”.

However, there are higher and lower values than the average value, as can be seen in table 13.

We tried to explain the trends arising from the pandemic, through a linear regression and it was found that 37,8% of the total variable of trends arising from the pandemic is explained by the independent variables present in the model. It appears that the model is significant, however, only the variables proportion of online purchases during the pandemic, years of Internet use, hedonic motivations, utilitarian motivations, risk perception and gender significantly affect the variable trends arising from the pandemic.

It is also verified that the variables that present the greatest relative contribution to the explanation of the trends arising from the pandemic are firstly, hedonic motivations, followed by risk perception and utilitarian motivations.

The results can be seen in table 14.

Table 13 – Description of trends arising from the pandemic

	Average	Standard deviation	
Covid-19 pandemic trends	**4,35**	**1,04**	**Between "neither agree nor disagree" and "partly agree".**
I have accumulated products I do not need to manage uncertainty.	5,12	1,52	Between "partially agree" and “agree"
I adapted well to the restrictions and improvised new ways to continue with my routine.	2,39	1,74	Between "disagree" and "partially disagree"
I postponed the purchase of more expensive products.	4,50	1,90	Between "neither agree nor disagree" and "partly agree".
I used new technologies to keep in touch with friends and family.	6,07	1,38	Between "agree" and "strongly agree".
I feel like I bought more on impulse.	3,21	2,00	Between "somewhat disagree" and "neither agree nor disagree".
I bought more online.	4,94	1,98	Between "neither agree nor disagree" and "partly agree".
Ordered more home deliveries.	5,12	2,02	Between "partially agree" and “agree".
I could not draw the line between my personal and professional life.	3,64	1,94	Between "somewhat disagree" and "neither agree nor disagree".
I discovered new talents and got interested in new activities.	4,24	1,85	Between "neither agree nor disagree" and "partly agree".
I reflected more on the importance of buying national products.	4,49	1,88	Between "neither agree nor disagree" and "partly agree".
I bought more national products.	4,21	1,93	Between "neither agree nor disagree" and "partly agree".
I reflected more on the social responsibility of brands.	4,49	1,89	Between "neither agree nor disagree" and "partly agree".
I bought more products from socially responsible brands.	4,16	1,89	Between "neither agree nor disagree" and "partly agree".

Source: Self elaboration.

Table 14 – Explanation of the dependent variable: Trends arising from the pandemic

	B	SE B	β	T	*p*
Proportion of online shopping during the pandemic	,143	,060	,168	2,372	,018
Years of Internet use	,359	,170	,069	2,114	,035
Hedonic motivations	,237	,030	,299	7,907	<,001
Utilitarian motivations	,216	,041	,255	5,239	<,001
Risk perception	,162	,029	,189	5,632	<,001
Gender	-,201	,074	-,096	-2,736	,006
Note: r=,632; r2=,400; r2 adjusted=,378 (p= <,001)					

Source: Self elaboration

Finally, we sought to understand whether the trends arising from the Covid-19 pandemic were being influenced by sociodemographic variables such as age, income and gender. It can be noted that sociodemographic variables influence many of the trends mentioned:

- Deferring the purchase of more expensive products is influenced by gender;
- The use of new technologies to keep in touch with friends and family is influenced by gender;
- The most impulsive purchase is influenced by age, mainly among young people (18-34 years) and adults (35-54 years), which can be concluded that the two groups have different perspectives regarding the most impulsive purchase during the pandemic;
- The increase in online shopping is influenced by age, especially among young people and older people (55 years or older), demonstrating that they have different perspectives at this level;
- The increase in home delivery orders is influenced by age;
- Discovery of new talents and interests in new activities is influenced by age
- The greater reflection on the importance of buying national products and the increase in the purchase of national products is influenced by gender;
- The greater reflection on the social responsibility of brands and the increase in the purchase of products whose brands are socially responsible is influenced by gender.

The results can be seen in table 15.

Table 15 – Influence of sociodemographic variables on pandemic trends

Criteria Used	Ho= Are independent; H1= Are not independent; Sig < 0,05 Reject H0.					
	Age		Income		Gender	
	Z	*p*	Z	*p*	Z	*p*
I postponed the purchase of more expensive products.	-,010	,992	-1,243	,214	-2,751	,006
I used new technologies to keep in touch with friends and family.	-,915	,361	,075	,940	-1,981	,048
I feel like I bought more on impulse.	-2,335	,015	-,940	,348	-1,266	,206
I bought more online.	-2,938	,003	1,018	,309	-1,018	,281
Ordered more home deliveries.	-2,457	,014	1,955	,051	-,642	,521
I discovered new talents and got interested in new activities.	-2,371	,018	-,865	,387	-,435	,663
I reflected more on the importance of buying national products.	-,042	,967	-,905	,366	-5,232	<,001
I bought more national products.	1,393	,164	,608	,543	-3,702	<,001
I reflected more on the social responsibility of brands.	-,688	,492	-1,959	,051	-4,937	<,001
I bought more products from socially responsible brands.	,025	,980	-,303	,762	-3,434	<,001

Source: Self elaboration.

4. Conclusion

The Covid-19 pandemic has, in fact, triggered new consumption habits and trends.

In terms of new online consumption habits, the increase in the number, proportion and amount spent on online purchases stands out. It can also be seen that payment methods have changed during the pandemic, with the credit/debit card and the MB Way becoming the preferred methods of respondents and a substantial decrease in the use of ATMs and cash on delivery and, on the contrary, an increased use of the MB Way.

Regarding the purchasing habits of the different categories of products during the pandemic, personal and routine care products stand out as the products that were bought the most and, in turn, products more related to leisure, were the categories most affected. There is an influence of sociodemographic characteristics, utilitarian and hedonic motivations and risk perception on online shopping habits of certain categories during the pandemic. Still within this topic, we tried to understand if there are indicators of constructs and ideas and there was an association between 3 groups: the first group related to daily life at home and routine, the second group more related to care and image and, finally, the third group, probably the most affected during the pandemic, which includes services more related to leisure and tourism and products with greater monetary value.

Regarding the trends arising from the Covid-19 pandemic, the agreement rate was higher in the trends "I accumulated products that I did not need to manage uncertainty", "I used new technologies to keep in touch with friends and family" and "I ordered more home deliveries". There was also a great influence of sociodemographic variables on the mentioned trends.

The relevance of this study focuses, above all, on the relevance of understanding consumer behavior during such an atypical period. Although consumer behavior is a widely studied subject, since understanding how people buy is one of the great challenges of marketing and a critical factor for a company to succeed in the business area where it operates. In this specific period, it allows us to assess how the context has relevance in the way people buy, live and develop new behaviors and habits that, most likely, will not end at the end of the pandemic.

In addition to this, the importance of the digital medium to mitigate the negative impacts of the Covid-19 crisis is also indisputable and, most likely, we are witnessing the beginning of the digital era more pronounced than ever, where the distinction between offline and online will no longer make sense, since the digital will always be connected to the day-to-day.

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Drivers of social media adoption in B2B markets

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Abstract

The Internet and social media have been gaining increasing visibility in the business world. In the last decade, this digital transformation has led to a change in the behaviour of marketing professionals and managers around the world. Although there are still some fears about the use of social media in the B2B context, it is unquestionable that these social media have proven to be essential in outlining a competitive strategy. The purpose of our study is to identify the main drivers of social media adoption in B2B markets. Based on a sample of 223 workers from B2B companies, a structural equations model was used to test the relationships among the variables learning, memorability, absence of errors, usability, functionality, social influence, satisfaction, trust, and social media adoption. The results showed that the variables learning, memorability and absence of errors are key determinants of social media usability. In turn, social influence and usability are crucial for trust in social media. Conversely, usability and trust are fundamental to social media usefulness. Satisfaction with social media is achieved through greater ease of use, usefulness, and trust. Finally, when social media users are satisfied, are subject to social influence, and judge social media to be usefulness, they tend to adopt social media.

Keywords: Social Media; Adoption; Drivers; B2B Markets.

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1. Introduction

The purpose of this study is to investigate the factors that, in the Business-to-Business (B2B) context, lead to the adoption of social media. Thus, the factors considered most important in the adoption of social media will be analysed, such as the usability of social media, that is, their ease of use, the social media usefulness, that is their functionality, satisfaction with social media, the trust that they should provide to their users, and, finally, the social influence they exert. In turn, variables such as learning, memorability and absence of errors were considered fundamental determinants of social media ease of use, i.e., of their usability.

2. Literature Review and Research Hypotheses

The decision to adopt a new technology is based on several parameters, such as the evaluation of the capabilities, the characteristics, and the challenges of the technology, which is rarely independent of other choices (Sharma et al., 2020). Researchers, when it comes to information technology adoption, have applied theories such as Rogers' Diffusion of Innovation (DOI) (1962), Fishbein and Ajzen's Theory of Reasoned Action (TRA) (1975), Davis's Technology Acceptance Model (TAM) (1989), and Venkatesh et al.'s Unified Theory of Acceptance and Use of Technology (UTAUT) (2003).

The TAM, developed by Davis (1989), based on Fishbein and Ajzen's TRA (1975), is one of the most common frameworks for investigating innovation adoption (Karjaluoto et al., 2021). The original TAM comprises two main predictors: perceived usefulness (or perceived functionality) and perceived ease of use (or perceived usability), which together explain attitudes towards technology use and intention to use. Over time, several researchers have extended TAM by adding more components considered determinants of technology adoption. Thus, Venkatesh and Davis (2000) devised TAM2, adding social influence to the other two determinants, usability and utility. Later, Venkatesh and Bala (2008) developed TAM3. The Unified Theory of Technology Acceptance and Use (UTAUT) by Venkatesh et al. (2003) is another extension of TAM and used constructs such as performance expectancy (similar to perceived usefulness), effort expectancy (similar to usability), social influence (similar to subjective norms) and facilitating conditions (similar to perceived behavioural control). According to Alghazi et al. (2021), TAM and UTAUT are the most frequently used models to measure users' perceptions of technology. TAM was developed to measure only behaviour in relation to computer use. The UTAUT, on the other hand, was developed based on eight theories to measure technology acceptance.

This section presents the theoretical framework that supports the construction of our research model, which is based on the Technology Acceptance Model (TAM) developed in 1989 by Davis. The TAM, being one of the most widely applied models of technology acceptance and use by users, is one of the best-known extensions in the literature of the Theory of Reasoned Action (TRA) by Fishbein and Ajzen's (1975). Trust was inserted into the model proposed in this work, given that it seems to be a key piece in explaining technology adoption, to the extent that it reduces the perception of risks associated with its use. In this sense, some authors, as is the case of Muñoz-Leiva et al. (2017) advocated that the inclusion of the trust variable can be seen as an extension of the TAM model. In turn, satisfaction is also considered a key variable in competitive environments, particularly in the online context (Tandon et al., 2016). The model proposed by Lacka and Chong (2016) also considered as facilitator variables of the social media use, the ability to learn how to use them, the memorability and the absence of errors, so we considered it important to include these variables in our model.

2.1. Drivers of social media adoption

The adoption of social media by companies was chosen as the final variable of our model. Although the authors differ as to the importance they assign to the factors that encourage the adoption of social media, we considered important to consider as antecedents of this variable the learning ability, memorability, absence of errors, usability and usefulness of social media, the satisfaction with social networks, the trust they should provide to their users and the social influence they radiate.

Learning ability emerges as one of the factors that determines the adoption of social networks in the B2B context. For Nielsen (1993), learning ability is one of the crucial components that justify the ease of use of a given technology. For this author, the easier a given technology is to learn, the easier it is to use. In a similar vein, some emphasise that since social media are easy-to-learn technologies, the learning capacity of firms becomes quite high, hence the impact on their usability (Siamagka et al., 2015). Nielsen (1993) also states that memorability is another crucial factor when it comes to the use of new technologies, because if users are able to easily memorise their use, they will use them in their work context. There are studies that reinforce the idea that the usability of social networks, in the B2B context, depends largely on memorisation by their users. A technology, besides having to be learned, it is crucial that it is easy to remember (Lacka & Chong, 2016). Thus, we will test the following hypotheses:

H1: Learnability positively influences social media usability in the B2B context.

H2: Memorability positively influences social media usability in the B2B context.

An error may limit the users' perception of social media usability in the B2B context and, consequently, may decrease their interest in adopting this type of technology (Nordlund et al., 2011). From this perspective, the use of technologies may eventually involve errors (Lacka & Chong, 2016). However, the number of errors should be low, otherwise it will have a less positive impact on usability. Since the question focuses on the absence of errors, we will test the following hypothesis:

H3: Errors absence positively influence social media usability in the B2B context.

Perceived usability (perceived ease of use) refers to the degree to which a person believes that using a given system is effortless (Davis, 1989). In this way, perceived usability or perceived ease of use refers to the ease of use of a given technology and is therefore often associated with factors such as trust and satisfaction on the part of users (Flavián et al., 2006; Casaló et al., 2008; Tandon et al., 2016). Nielsen (2012) states that perceived usability refers to the ease of understanding the structure of a given platform, in this case social media, as well as its functions, and the content that is visible by the user. Another issue that is also related to usability is the simplicity of use of that same platform, especially when there is an initial contact. The ease with which users find what they are looking for is also another very important component, as well as the ease of navigation on that same platform, i.e., in this case the social media, and how these are able to make the user get the desired results, there being a good relationship between the moment an action is ordered by the user and the response time of that same platform to accomplish that request.

According to Casaló et al. (2008), the concept of usability considers the following factors: the ease of understanding the structure of the website, its functions, interface and contents that can be observed by the user; the simplicity of using the website in its initial phases; the speed with which users can find what they are looking for; the ease of navigating the website in terms of time required and action needed to obtain the desired results; and the ability of users to control what they do and where they are, at any time.

Usability is related to trust and intention to use a given product/service (Rupp et al., 2018). In other words, the higher the usability of a given technology, the greater the individual's belief that its use will help him/her achieve the proposed goals, which results in increased trust towards the technology. Several studies point in the same direction, as usability positively influences trust due to the honesty that transpires on the website or online technology that is used (Chinomona, 2013; Atwater et al., 2015; Al-Khalaf & Choe, 2019; Chawla & Joshi, 2019, Kaabachi et al., 2020). Thus, we will test the following hypothesis:

H4: Usability positively influences trust in social media in the B2B context.

Perceived usefulness refers to the degree to which a person believes that using a particular system improves their productivity or job performance (Davis, 1989). Perceived usefulness or perceived functionality is also understood, on numerous occasions, as a perceived relative advantage (Liebana-Cabanillas et al., 2020).

According to the TAM model, usability has a positive impact on perceived functionality (Davis, 1989). Studies are known to have highlighted this relationship in social networks, in the B2B context (Siamagka et al., 2015). This occurs because the easier it is to use a particular technology, the more likely the user is to see it as functional, i.e., as increasing performance in their work (Lacka & Chong, 2016). Also in an online context, there is no shortage of studies that have shown the impact that usability has on usefulness (Belanche et al., 2019; Foroughi et al., 2019; Hubert et al., 2019; Park et al., 2019; Qin et al., 2019; Zhang et al., 2019; Aji et al., 2020; Baccarela et al., 2020; Chattergee et al., 2020; Cheunkamon et al., 2020; Karkar, 2020; Kavota et al., 2020; Liébana-Cabanillas et al., 2020; Lin et al., 2020; Saheb, 2020; Trinh et al., 2020; Yu & Huang, 2020; Bravo et al., 2021; Khan et al., 2021; Rahi et al., 2021; Wong et al., 2021). Thus, we will test the following hypothesis:

H5: Usability positively influences social media usefulness in the B2B context.

Usability has a positive impact on user satisfaction (Flavián et al., 2006). This is because the easier a technology is to use, the greater the degree of user satisfaction. Several studies have shown that there is a direct relationship between these two variables (Tandon et al., 2016; Aboelmaged, 2018; Wu & Cheng, 2018; Rahi & Ghani, 2019; Nadeem et al., 2020; Shin, 2020; Salimon et al., 2021). Thus, we will test the following hypothesis:

H6: Usability positively influences satisfaction with social media in the B2B context.

Bhattacherjee (2001) related the functionality variable of the TAM model with the satisfaction variable, finding that the functionality of a given technology has a strong impact on user satisfaction. Several studies have shown that there is a positive impact of the functionality of a given technology on its users' satisfaction in the online context (Hsiao & Tang, 2016; Wu & Cheng, 2018; Foroughi et al., 2019; Tsao, 2019; Cheng, 2020; Cheunkamon et al., 2020; Gupta et al., 2020; Kar, 2020; Osatuyi et al., 2020; Ruangkanjanases et al., 2020; Shin, 2020; Rahi et al., 2021; Salimon et al., 2021). Thus, we will test the following hypothesis:

H7: Usefulness positively influences satisfaction with social media in the B2B context.

In an online environment with high uncertainty, the importance of trust is crucial for consumers to reduce risk perceptions (Pavlou & Xue, 2007). Trust plays an important role in social media adoption because online transaction, besides being intangible, involves a significant degree of perceived risk and unpredictability (Slade et al., 2014; Arif & Du 2019).

Perceived functionality only exists when trust on the part of the user is formed (Pavlou, 2003; Hong & Na, 2008; Alarcón-del-Amo et al., 2014; Yoo et al., 2017). In studies, conducted in the online world, trust exerted a significant impact on the functionality of the online product/service that the user was enjoying (Li et al., 2017; Chen & Aklikokou, 2019; Al-Omairi et al., 2020; Talwar et al., 2020; Gawron and Strzelecki, 2021; Khan et al., 2021). Thus, we will test the following hypothesis:

H8: Trust positively influences social media usefulness in the B2B context.

In several studies, trust exerted a positive impact on the satisfaction of an individual purchasing a product or service from a company (Romeike et al., 2016; Ofori et al., 2017; Beyari & Abareshi, 2018; Cheunkamon et al., 2020; Kalinić et al., 2020; Kar, 2020; Tam et al., 2020; Zhu et al., 2020; Attar et al., 2021; Rahi et al., 2021). In general, life satisfaction for an individual, in this case a user, is inevitably related in a positive way to norms of reciprocity and trust towards the other party involved (Valenzuela et al., 2009). In this sense, we will test the following hypothesis:

H9: Trust positively influences satisfaction with social media in the B2B context.

Social influence is defined as the importance given by consumers to the opinions of other people (family, friends, among others) in relation to technology use (Venkatesh et al., 2012). Social influence plays a key role in increasing the adoption rate of consumer-focused digital services (Venkatesh et al. 2003; Shin 2009).

Several authors have advocated that there is a positive effect of social influence on the trust variable, since if people whose opinion the user values use, then it is because they trust that service or product (Chaouali et al., 2016; Malachi & Hwang, 2016; Hoque & Sorwar, 2017; Shareef et al., 2017; Kaabachi et al., 2019; Pinochet et al., 2019; Al-Omairi et al., 2020). Thus, we will test the following hypothesis:

H10: Social influence positively influences trust in social media in the B2B context.

There have been studies where social influence had a positive impact on users' adoption of a given technology (Zhou et al., 2010; Mandal & McQueen, 2012; He et al., 2017; Sabani, 2020; Sampa et al., 2020; Singh et al., 2020). This is because the beliefs of others, whose opinion the user values, influence the adoption of a given technology (Tam & Oliveira, 2017). Having said this, we will then test the following hypothesis:

H11: Social influence positively influences social media adoption in the B2B context.

Satisfaction has a positive impact on adoption, as when users feel satisfied, they adopt social media (Tam & Oliveira, 2017; Hallak et al., 2018; Markovic et al., 2018). Thus, we will test the following hypothesis:

H12: Satisfaction positively influences social media adoption in the B2B context.

Perceived usefulness, rather than perceived ease of use, is the most significant factor influencing firms' adoption of social media (Ahamat et al., 2017). The studies by Siamagka et al. (2015), Golsefid and Kiakalayeh (2016), Isaac et al. (2017), Sharma et al. (2017), Bogea and Brito (2018), Rahman et al. (2019), Alamri et al. (2020), Basit et al. (2020), Sampa et al. (2020), Singh et al. (2020), and Dwivedi et al. (2021) also highlighted this relationship. Thus, we will test the following hypothesis:

H13: Usefulness positively influences social media adoption in the B2B context.

3. Research Methodology

The conceptual model proposed in the present study is depicted in Figure 1. This research model investigates learnability, memorability, and absence of errors as antecedents of social media usability. In turn, we propose that social media usability and social influence are determinants of trust in social media. On the other hand, we propose that social media usability and social influence are determinants of trust in social media, being, in turn, the variables social media usability and trust in social media antecedents of social media usefulness and satisfaction with social media. The usefulness of social networks is a determinant of

satisfaction. Finally, we propose as direct antecedent variables of social network adoption, social influence, social network usefulness and satisfaction with social networks. Consequently, this is a pioneer model about the determinants of social media adoption in Portugal.

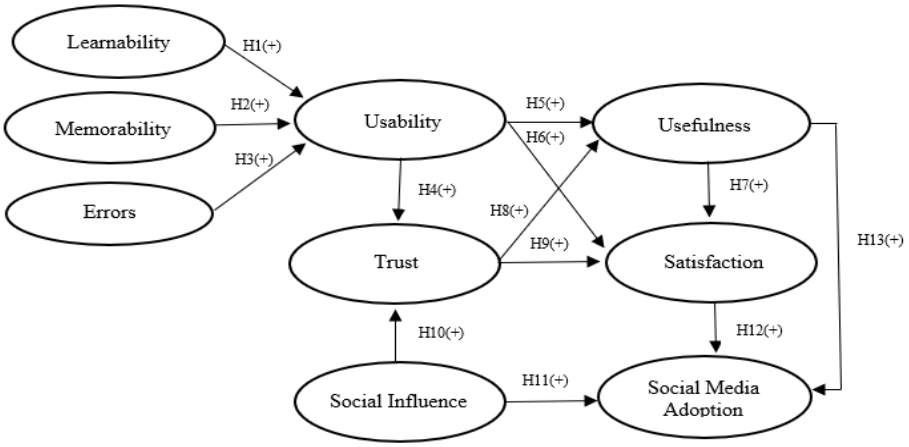


Figure 1 - Proposed Conceptual Model

Source: Elaborated by the authors

3.1. Sample selection and data collection

From the online surveys sent to B2B companies from the North to the South of Portugal, 223 valid answers were obtained. Of these, 48.4% are female and 51.6% are male. As to the position held, the majority, 54.7%, stated that they hold management, marketing, or CEO positions. As for education, 53.4% have a degree and 22.9% a master's degree. In turn, 99.1% stated that they have been familiar with the Internet for more than 6 years. Lastly, companies with up to 10 and between 10 and 49 workers represented 55.6% of the sample, between 50 and 250 are 20.2% and with more than 250 are 24.2%.

3.2 Measurement scales

To measure the variables, we used scales based on the literature. The variables were assessed using 7-point Likert scales, where 1 is equivalent to "Strongly Disagree" and 7 corresponds to "Strongly Agree". The choice of this scale is justified because it is the most recommended for attitudes, being useful in measuring the intensity of the respondent's feelings (Churchill, 1979).

The scales for the variables used in this study were adapted from other scales taken from the literature and are shown in Table 2. The scales for measuring learnability, memorability and errors absence were taken from Lacka and Chong (2016). The scale to measure usability was adapted from Flavián et al. (2006) and Lacka and Chong (2016). The scale to measure usefulness was adapted from Siamagka et al. (2015) and Lacka and Chong (2016). The scale to measure satisfaction was adapted from Hsiao et al. (2016) and López-Miguens and Vázquez (2017). The scale to measure trust was adapted from Oliveira et al. (2014) and Muñoz-Leiva et al. (2017). The scale to measure social influence was adapted from Gu et al. (2009) and Oliveira et al. (2016). Finally, the scale to measure social media adoption was taken from Agnihotri et al. (2016) and Lacka and Chong (2016).

4. Analysis and Results

4.1. Measurement Model

An initial screening of each scale was conducted using item-total correlations, and exploratory factor analysis (EFA) using SPSS 26.0. Following Anderson and Gerbing's (1988) two-step approach, a measurement model was estimated before testing the hypotheses, using a structural model. The analysis of data was realized through confirmatory factor analysis (CFA) and structural equation modeling (SEM) using the statistical software AMOS (Analysis of Moment Structures) version 26.0. Maximum likelihood estimation procedures were used since these afford more security in samples that might not present multivariate normality. First, we examined the most relevant fit indices of the measurement models recommended by Chin and Todd (1995) and Hu and Bentler (1999).

Table 1 – Factor Correlation and Measurement in Information Matrix

Construct	CR	AVE	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9
Learnability (X_1)	.96	.88	*.96*								
Memorability (X_2)	.97	.93	.84	*.98*							
Errors (X_3)	.94	.83	.76	.77	*.93*						
Satisfaction (X_4)	.99	.94	.68	.68	.77	*.99*					
Trust (X_5)	.99	.95	.58	.60	.65	.74	*.99*				
Usability (X_6)	.98	.92	.81	.86	.77	.77	.73	*.98*			
Usefulness (X_7)	.98	.93	.69	.66	.68	.83	.81	.78	*.98*		
Social Influence (X_8)	.95	.85	.58	.58	.62	.76	.83	.72	.79	*.94*	
Social Media Adoption (X_9)	.98	.93	.64	.65	.65	.85	.76	.74	.87	.77	*.98*

Note: The Cronbach's alpha coefficients are found on the diagonal (italic).
Abbreviations: AVE (average variance extracted), CR (composite reliability).

Table 2 - Measurement scales, results of standardized estimated parameters and t-values of the measurement model

Measures	Standardized Loadings	t-Value
Learnability		
Learning how to use social media is easy for me.	0.866	16.995
It is easy for me to learn how to use social media to achieve the proposed objectives.	0.996	21.775
It is easy for me to understand how to use social media to achieve the proposed goals.	0.980	21.089
Memorability		
It is easy to remind myself how to use social media.	0.970	20.792
I am able to return to social networks and use them after a period without using them.	0.971	20.724
I am able to repeat activities carried out using social media.	0.946	19.747
Errors		
I make few errors while using social media.	0.936	19.174
If I make errors using social media, I can easily overcome them.	0.948	19.367
Catastrophic errors do not occur while I am using social media.	0.853	16.419
Satisfaction		
My experience using social media in my work has been satisfactory.	0.957	20.213
I am satisfied with the service provided by social media.	0.959	20.271
My choice to use social media for work purposes has been successful.	0.990	21.574
I feel good about having decided to use social media.	0.988	21.487
Overall, I am satisfied with social media.	0.970	20.738
Trust		
Social media seem trustworthy.	0.985	20.338
Social media seem safe.	0.970	20.719
Social media seem credible.	0.974	20.860
In general, I trust social media.	0.962	20.405
Usability		
It's easy to navigate social media.	0.952	19.994
It is easy to become skilled at using social media.	0.965	20.472
Interaction with social media is clear and understandable.	0.947	19.776
In general, social networks are easy to use.	0.964	20.442
Usefulness		
Using social networks increases my productivity at work.	0.951	19.950
Using social media boosts my effectiveness.	0.964	20.455
Using social media improves my performance.	0.982	21.445
Social media allows me to get my work done faster.	0.959	20.455
Social Influence		
People who are important to me think I should use social media.	0.923	18.799
People who influence my behaviour think I should use social media.	0.973	20.664
I use social networks because many people use them.	0.874	17.129
Social Media Adoption		
I frequently use social media in my work.	0.963	20.419
I am using social media to its full potential to get my work done.	0.952	20.014
In my work routine, social media is an integral part.	0.980	21.390
In the last 6 months, I have regularly used social media in my work.	0.960	20.310

The measurement model fits the data well. To test a model's fit, the chi-square (X2) test statistic concerning degrees of freedom (df) can be used. If the X2 /df value is less than 3, the model is considered a good fit. The chi-square (X2) was 972.464 with 459 degrees of freedom at $p<0.001$ (X2 /df=2.1). Because the chi-square is sensitive to sample size, we also assessed additional fit

indices: (1) normed fit index (NFI), (2) incremental fit index (IFI), (3) Tucker–Lewis's coefficient (TLI) and (4) comparative fit index (CFI). All these fit indices are higher than 0.9 (NFI=0.93, IFI5=.95, TLI=0.96 and CFI=0.96). Because fit indices can be improved by allowing more terms to be freely estimated, we also assessed the RMSEA, which is 0.071.

CFA enables the performance of tests regarding the convergent validity, discriminant validity and reliability of the study constructs. A commonly used method for estimating convergent validity examines the factor loadings of the measured variables (Anderson & Gerbing, 1988). Following the recommendations by Hair et al. (2014), factor loadings greater than 0.5 are considered very significant. Also, we used the AVE to contrast convergent validity. Fornell and Larcker (1981) suggested adequately convergent valid measures should contain less than 50% error variance (AVE should be 0.5 or above). Convergent validity was achieved in this study because all the factor loadings exceeded 0.5 and all AVEs were greater than 0.5. Next, CFA was used to assess discriminant validity. If the AVE is larger than the squared correlation between any two constructs, the discriminant validity of the constructs is supported (Fornell & Larcker, 1981). Discriminant validity was also assessed for each pair of constructs by constraining the estimated correlation between them to 1.0, and a difference test was performed on the values obtained from the constrained and unconstrained models (Anderson & Gerbing, 1988). Discriminant validity of the scales was also supported, as none of the confidence intervals of the phi estimates included 1.0 (Anderson & Gerbing, 1988). Finally, Gaski (1984) suggests the existence of discriminant validity if the correlation between one composite scale and another is not as high as the coefficient alpha of each scale. These tests demonstrated that discriminant validity is present in this study.

To assess reliability, the composite reliability (CR) for each construct was generated from the CFA. The CR of each scale must exceed the 0.7 thresholds (Bagozzi, 1981). As Table 1 shows, the composite reliability coefficients of all the constructs are excellent, being larger than 0.9. Cronbach's alpha indicator was also used to assess the initial reliability of the scales, considering a minimum value of 0.7 (Cronbach, 1970; Nunnaly, 1978). As shown in Table 1, coefficient alpha values are all over 0.9, exhibiting high reliability. Table 1 also shows the AVE for each construct, and a correlation matrix of constructs is also shown. In Table 2, we can also see the standardized loadings and t-value of all scale items.

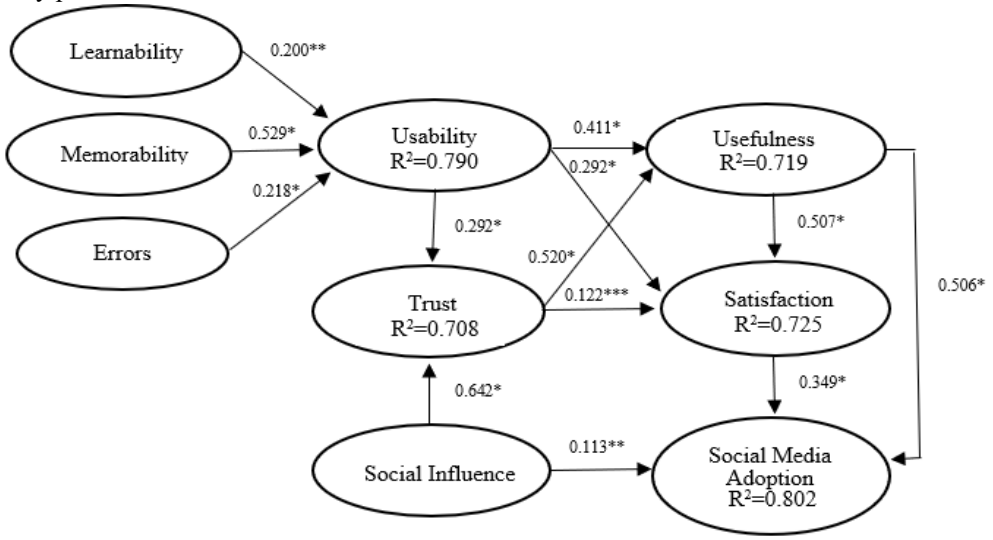
4.2. Structural Model

The structural model fits the data very well (X^2=1153.937, df=476, p<0.01, X^2/df=2.4, IFI=0.96, TLI=0.95, CFI=0.96, RMSEA=0.077). This model is represented in Figure 2.

The results in Table 3 show the relationships proposed in the structural model. The model supports the thirteen proposed hypotheses.

According to Bollen (1989), it is very important to analyze the effects of total effects (direct and indirect effects) because an examination of only the direct effects could be misleading. The analysis of indirect effects highlights the importance of mediating variables in explaining social media adoption. Thus, in Table 4, we can observe the standardized direct, indirect and totals effects.

We used the bootstrapping technique with a sample of 2,000 random observations generated from the original sample, and a confidence interval of 95% was also used in the estimation of the proposed model. This is because the analysis of total and indirect effects is only possible with the use of this method of estimation.



Note: * p<0.001; ** p<0.01; *** p<0.05; R^2=*Squared Multiple Correlations*.

Figure 2 – Structural Model

Source: Elaborated by the authors

Table 3- Estimation results of the structural model

Path	Standardized Loadings	t-Value	Hypotheses
Learnability → Usability	0.200**	3.105	H1 (+): S
Memorability → Usability	0.529*	7.818	H2 (+): S
Errors → Usability	0.218*	3.806	H3 (+): S
Social Influence →Trust	0.642*	13.184	H4 (+): S
Usability → Trust	0.292*	6.384	H5 (+): S
Usability →Usefulness	0.411*	8.383	H6 (+): S
Trust → Usefulness	0.520*	10.619	H7 (+): S
Usability → Satisfaction	0.292*	5.322	H8 (+): S
Usefulness→ Satisfaction	0.507*	7.392	H9 (+): S
Trust → Satisfaction	0.122***	2.082	H10 (+): S
Satisfaction → Adoption	0.349*	6.333	H11 (+): S
Usefulness → Adoption	0.506*	8.410	H12 (+): S
Social Influence → Adoption	0.113**	2.725	H13 (+): S

Note: * p<0.001; ** p<0.01; *** p<0.05 (one tail tests).

Table 4 - Standardized direct, indirect, and total effects

Paths	Direct Effects	Indirect Effects	Total Effects
Learnability → Usability	0.200***	-	0.200***
Memorability → Usability	0.529*	-	0.529*
Errors → Usability	0.218**	-	0.218**
Social Influence →Trust	0.642*	-	0.642*
Usability → Trust	0.292**	-	0.292**
Errors → Trust	-	0.064**	0.064*
Memorability → Trust	-	0.154*	0.154*
Learnability → Trust	-	0.058**	0.058**
Usability → Usefulness	0.411**	0.152*	0.563**
Trust → Usefulness	0.520*	-	0.520*
Social Influence → Usefulness	-	0.334*	0.334*
Learnability → Usefulness	-	0.112*	0.112***
Memorability → Usefulness	-	0.298*	0.298*
Errors → Usefulness		0.123*	0.123*
Usability → Satisfaction	0.292**	0.321*	0.563*
Usefulness → Satisfaction	0.507*	-	0.507*
Trust → Satisfaction	0.122***	0.264*	0.385*
Social Influence → Satisfaction	-	0.248*	0.248*
Learnability → Satisfaction	-	0.122***	0.122***
Memorability → Satisfaction	-	0.325*	0.325*
Errors → Satisfaction	-	0.134*	0.134*
Satisfaction → Social Media Adoption	0.349*	-	0.349*
Usefulness → Social Media Adoption	0.506*	0.177*	0.683**
Social Influence → Social Media Adoption	0.113****	0.255*	0.368*
Trust → Social Media Adoption	-	0.398*	0.398*
Usability → Social Media Adoption	-	0.499**	0.499**
Learnability → Social Media Adoption	-	0.100**	0.100**
Memorability → Social Media Adoption	-	0.264*	0.264*
Errors → Social Media Adoption	-	0.109*	0.109*

Note: * p<0.001; ** p<0.01; *** p<0.05.

5. Discussion and Conclusions

Memorability has the strongest direct influence on the usability of social media by companies, followed by the absence of errors and, finally, learnability. In other words, the easier social media are to remember, the easier they are to use. The absence of errors is also important to consider that social media are easy to use. On the other hand, learning ability is the variable which, although it showed a significant effect on usability, had a lower impact. In Lacka and Chong's (2016) study, memorability also proved to be the most important variable when it comes to adopting social media. However, while in our study the absence of errors exerted a stronger influence than the ability to learn when it comes to social media adoption, in the work of Lacka and Chong (2016) the effect of the ability to learn was greater.

Social influence has a very strong impact on trust in social media, because the greater the influence that other people exert, when it comes to use social media at work, the higher the trust they inspire. The same relationship was found in the study of Al-Omairi et al. (2020). The effect of the social media ease of use on trust, although significant, was found to be weaker. The studies

by Chawla and Joshi (2019) and Kaabachi et al. (2020) also demonstrated the impact of usability on trust in social media.

The strongest direct impact on social media satisfaction comes from usefulness. The studies of Rahi et al. (2021) and Salimon et al. (2021) confirm this relationship. Usability and trust have also a significant influence on social media satisfaction, although weaker. Salimon et al. (2021) support the impact of usability on social media satisfaction. Rahi et al. (2021) also demonstrate that trust has a positive effect on social media satisfaction.

When it comes to social media adoption, usefulness plays a crucial role, like the studies of Singh et al. (2020) and Dwivedi et al. (2020). Satisfaction is also very important in social media adoption, as in the studies of Hallak et al. (2020) and Markovic et al. (2018). Finally, social influence has a significant effect on social media adoption, although weaker. Sampa et al. (2020) and Singh et al. (2020) also demonstrate this last relationship.

6. Implications and Limitations

The social media usefulness depends on trust and ease of use. Thus, the strongest effect found was that of trust on social media usefulness. In other words, the more trustworthy social media are, the more useful they prove to be as a working tool in companies. The studies by Gawron and Strzelecki (2021) and Khan et al. (2021) confirmed this relationship. In turn, as in the studies of Rahi et al. (2021) and Wong et al. (2021), the social media ease of use also evidenced a strong effect on the social media usefulness.

Satisfaction with social media stems both from whether they are useful, how easy they are to use and how trusting they are. The social media usefulness exerts the strongest effect on satisfaction with social media. The impact of social media ease of use on satisfaction is also strong. The influence of trust on satisfaction with social media is weaker, although significant. The effects of ease of use and usefulness of social media on satisfaction were evidenced in Salimon et al. (2021), whereas the impact of trust in social media on satisfaction was verified in Attar et al. (2021) and in Rahi et al. (2021).

The social media adoption, in the context of work in companies, results from the social media usefulness, satisfaction with it and social influence. The social media usefulness was found to have the greatest impact on social media adoption, followed by satisfaction and finally social influence. The impact of social media usefulness on social media adoption was confirmed in Sampa et al. (2020) and Dwivedi et al. (2021). The impact of satisfaction on social media adoption was evidenced in Markovik (2018). Finally, the effect of social influence on adoption was shown in Sabani et al. (2020) and Sampa et al. (2020).

It should be stressed, however, that the total effects (direct and indirect) should be investigated, because considering the total effects will give us a more rigorous assessment of the relationships between the variables under analysis. The strongest total effect (direct and indirect) on the social media usefulness resulted from the ease of using them, closely followed by the trust one has in social media. As for the strongest total effect (direct and indirect) on satisfaction with social media, this resulted from the ease of use of social media, followed by their usefulness, and finally by trust. Finally, regarding the final variable, social media adoption, the strongest total effect (direct and indirect) resulted from social media usefulness. Social media usability, social influence, trust in social media, and satisfaction with social media also exerted a strong total effect on social media adoption. In short, it is important for companies to realise that the social media usefulness is claimed to be a determinant of social media adoption. The social media ease of use, the influence of third parties, trust in them and satisfaction with social media also proved to be decisive in the adoption of social media.

6.1. Theoretical Implications

Much of the interest of the present work lies in the analysis of the variables that determine the adoption of social media in the B2B context. The variable usefulness or functionality proved to be fundamental in the adoption of social media. The variables ease of use or usability, social influence, satisfaction, and trust also showed a significant effect on the adoption of social media by companies. Thus, our aim is to contribute to the analysis of the key determinants of social media adoption in the B2B context, in Portugal.

6.2. Management Implications

The main objective of this research is to evaluate the main antecedents of social media adoption in the B2B context. Although there is still some concern about the use of social media in the B2B context, this study highlights that social media makes a decisive contribution to companies' sustainable competitive advantage.

6.3. Limitations and Future Research

The research findings should be interpreted, taking into consideration certain limitations. Future studies could examine other determinants of social media adoption in the B2B context.

Given that the present study used cross-sectional data, it would also be of great interest for future research to use a longitudinal sample to assess the nature of social media adoption over time.

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WOM antecedents of city residents:
differences between men and women

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Abstract

The impact of the COVID-19 pandemic on tourism has reduced the flow of visitors to cities, paralyzing what was a growing sector in recent years. Currently, cities urgently need to attract tourists to their territories. In this dissemination of cities, the role of citizens residing in cities cannot be neglected since, through their word of mouth (WOM), they promote their cities' experiences, infrastructure, and atmosphere. However, the WOM of cities differs between men and women.

In this context, our study aimed to explore the factors that influence WOM by men and women residing in cities, identifying that infrastructure, atmosphere, and perceived psychological well-being play an essential role in this influence.

Thus, this cross-sectional study obtained data through a questionnaire that resulted in a sample consisting of 428 individuals. The hypothesis test was carried out using SMART PLS software and identified that infrastructure, atmosphere, and perceived psychological well-being positively influence citizens' WOM. In this context, our research contributes to those responsible for cities to develop actions, with their citizens, with the aim of disseminating their heritage and encouraging tourists to visit the territories through them.

Keywords: Infrastructures, Wellness, Word of Mouth, Residents, Tourism

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1. Introduction

The theme of quality of life has aroused a growing interest in the academy; several studies have been developed either on the subject of public management, in terms of being social, lacking further development (Cuadrado-Ballesteros, Mordán, & García-Sánchez, 2014). "Municipalities have a growing role in sustainable development and promoting citizens' quality of life (Burrett, 2009, p.155). Mohseni (2020) works on charitable smart cities, where cities benefit from various facilities and opportunities. This way, when residents feel satisfied with the city's facilities and opportunities, they will have a positive attitude towards tourism. Through WOM, residents help promote (e.g., Ribeiro, Oom do Valle, & Silva, 2013) and create the destination image (Bornhorst, Ritchie, & Sheehan, 2009). This study aims to understand the factors (infrastructure, atmosphere, and perceived psychological well-being) that influence WOM in men and women residing in cities.

2. Theoretical Framework

2.1. Quality of life for residents

The concept of quality of life is complex and involves several subjective and objective indicators (Sirgy, 2001). The quality of the built social infrastructure influences the quality of life, being able to meet the needs of residents, and affect social well-being (Vaznoniene, 2015) in the built environment, being strongly connected with social sustainability (Grum & Grum, 2020).). In addition to built infrastructure, social infrastructure also includes public services such as education, health, maintenance, postal services, firefighting services, and other public services (Atkociuniene, Vaznoniene & Pakeltiene, 2015).

González, Carcaba, Ventura, and Garcia (2011) analyzed the quality of life of the most prominent Spanish municipalities, concluding that the factors that condition a better quality of life are related to living conditions, namely education, health facilities and culture, pollution and crime, but also population density, growth and aging.

Węziak-Białowolska (2016) analyzed aspects of the quality of urban life in European cities, realizing that satisfaction or dissatisfaction with life in a city depends on public transport, cultural facilities, availability of points of sale, green spaces, air quality, people's reliability, public administration, and administrative efficiency, being these factors motivating some dissatisfaction. On the other hand, the factors most linked to satisfaction with life in the city are safety and place of residence.

Giannico, Spano, Elia, D'Este, Sanesi, and Lafortezza (2021) analyzed the relationship between green spaces in cities and the quality of life perceived by citizens, environment, social inclusion, and urban management in European cities, considering that there are benefits and an influence of these green spaces on the health and well-being of citizens, improving their quality of life. Farrokhian, and Mayedzadeh, (2020) also point out that the increase and improvement of green spaces in the city bring significant improvements to overall higher quality of life for residents. Another important factor concerns the perception of the celebratory atmosphere in the city that increases the subjective well-being of the residents of the host city. Stefansdottir (2018) adds that the atmospheric characteristics of different locations influence residents' perception of quality of life.

In addition to the city's infrastructure and atmosphere, Burret (2009) adds that municipalities need better means to plan, manage and involve the community, demonstrating transparency and responsibility towards citizens. In this way, the city's communication also affects the residents' quality of life. "The growing demand for transparency has recently fostered greater openness within public administrations. Considered an essential tool of good management, transparency helps to reinforce the authorities' perception of legitimacy" (Keuffer & Mabillard, 2020, p. 782). For Keuffer and Mabillard (2020), municipalities are more open, transparent, and closer to the population, with more proactive dissemination of information, reducing information asymmetry and conditioning the quality of interactions between the various actors and the quality of life of those involved residents. The study by Jurowski and Brown (2001) points out that the involvement of residents with the city leads to a more favorable assessment of the quality of life. In this sense, cities and those responsible for their management have a crucial responsibility in how residents look at, live, and experience the city. Residents' quality of life and how they promote the city.

In this sense, our study proposes the following research hypotheses:

H1: City communication influences the psychological well-being of residents;
H2: The atmosphere of the city influences the psychological well-being of the residents;
H3: City infrastructures influence the psychological well-being of residents.

2.2. Word of Mouth (WOM)

WOM has been studied since the 1960s in marketing (Arndt, 1967) and is defined in various ways. Litvin et al. (2008, p. 459) described WOM as "communication between consumers about a product, service or company whose sources are independent of commercial influence." With the advancement of the internet, personal interactions also began to be reflected online, giving rise to eWOM (“word of mouth" or "word of mouse"). In a highly competitive industry such as tourism, using WOM has brought critical competitive advantages to destination brands (Litvin et al., 2008). According to Baloglu and McCleary (1999), WOM to friends or colleagues is the essential source for creating tourist images of destinations. However, residents also play a leading

role in this process. Their attitudes towards tourism help in the promotion (e.g., Ribeiro, Oom do Valle, & Silva, 2013) and creation of the destination image (Bornhorst, Ritchie, & Sheehan, 2009), influencing the visitors' experience (Gursoy et al. 2009; Wang & Xu 2015). Residents can also be tourists (Franklin & Crang, 2001), as they visit places and vacation in the regions close to where they live (Singh & Krakover, 2015).

Residents' support for tourism generates even more tourism (López et al., 2018). The communication carried out by cities has an increasingly decisive role in influencing tourist behavior. In this context, our study proposes the following research hypothesis:

H4: City communication influences word of mouth performed by residents.

Residents' support for tourism often results from the perception of socio-economic and environmental benefits resulting from tourism that affect their lives and attitudes (Jaafar et al., 2015). On the one hand, if the effects are positive, this will influence the positive WOM of residents (Lopez et al., 2018). Thus, it is important to involve residents in planning tourism practices that affect their quality of life (Malek & Costa, 2014) for the successful development of the destination brand (Eshuis, Klijn, & Braun, 2014). On the other hand, WOM is also influenced by the destination image (Qu, Kim, & Im, 2011) and by the attachment to the place (place attachment) that affects the behavior of residents (Chen & Dwyer, 2018). Residents' perception of the place is a credible form of information that helps to reduce the risk of purchasing the service and increases the notoriety of the place (Confente 2015), which makes WOM an increasingly influential factor in choosing the destination (Tasci & Gartner, 2007).

In this way, destinations should seek to develop marketing strategies that enhance positive WOM through residents and improve their quality of life, namely in the psychological dimension. In this sense, we propose to study the following research hypothesis: H5: Psychological well-being influences residents' word of mouth.

Thus, through the deduction of hypotheses, we propose to study the following conceptual model (figure 1):

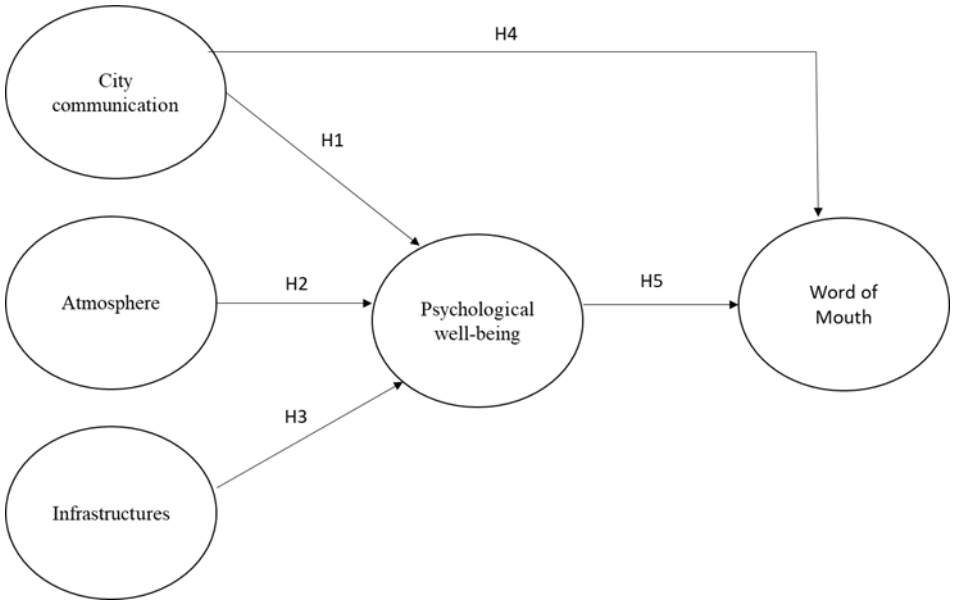

Figure 1 - Conceptual Model

3. Methodology

In order to validate the proposed conceptual model, we chose residents in Portugal as the population. Sampling was non-probabilistic for convenience, and data collection was conducted online between March and June 2020. The cross-sectional study presented here had as its unit of analysis a sample of 428 individuals whose characterization is shown in table 1.

Table 1 - Sample characterization

Variable	Category	N	%
Gender	Female	266	62,1
	Male	162	37,9
Age	< 20 years	57	13,3
	20 to 29 years	186	43,5
	30 to 39 years	44	10,3
	40 to 49 years	71	16,6
	50 to 59 years	36	8,4
	60 to 69 years	22	5,1
	> 70 years	12	2,8
Academic qualifications	Basic education	56	13,1
	High school	163	38,1
	Higher education	209	48,8

The research was carried out through a self-administered questionnaire by the participants. To measure the constructs, we adapted scales used by other authors. Thus, we adapted the scales by Gómez et al. (2015) for the infrastructure and the atmosphere construct. The items referring to the city's marketing communication construct were adopted from Węziak-Białowolska (2016), and for the psychological well-being construct, we used the scale presented by Macke et al. (2018). The items adopted for word of mouth were adapted from Ruiz-Mafe et al. (2018). In order to standardize the measurement scales, the investigation used 7-point Likert scales, ranging from (1) totally disagree to (7) totally agree.

4. Results

The results of this study were estimated through partial least squares estimation (PLS-SEM - Partial Least Squares - Structural Equation Modeling). This estimation method is suitable for exploratory research and does not require data normality to be observed (Hair et al., 2016). Data analysis via PLS-SEM is performed in two steps. First, we analyzed the reliability and validity of the measurement model, and second, we analyzed the relationships between the constructs as Hair et al. (2016) suggested. The PLS-SEM algorithm was run on SMART PLS v3.3.2 software (Ringle et al., 2015).

4.1. Common Method Bias

Due to the nature of the answers obtained and given that they could present some bias by the common method (Common Method Bias), we performed previous analyzes as recommended by Podsakoff et al. (2003). Thus, we performed Harman's single factor test, where the first factor represented 38.76% of the total variance. This value is below the threshold value of 50%, according to Podsakoff et al. (2003) recommend. Furthermore, we carried out successive analyzes of the possible existence of multicollinearity through the analysis of the VIF indicator (Variance Inflator Factor). In this analysis, we obtained VIF values (Table 2) between 1.404 and 2.854. These values are below the threshold value (VIF<5). In this context, bias by the common method does not appear to be a problem.

4.2 Measurement Model: Validity and Reliability

For the analysis of the validity and reliability of the measurement model, the research obtained the values indicated in table 3, which show that the average variance extracted (VEM) (with values in the range between 0.547 and 0.811) and the composite reliability (F.C.) (with values in the range between 0.877 and 0.928) is above the limit values (VEM>0.5; C.R.>0.7) (Bagozzi & Yi, 1988). Additionally, we found that Cronbach's α values (with values in the range between 0.834 and 0.886) and rho_A values (with values in the range between 0.854 and 0.935) are also above the minimum limits suggested by the literature (α >0.7; Rho_A > 0.7) (Hair et al., 2016).

Our study found that the standardized factor loadings are above the threshold value (λ >0.7) as recommended by Chin (1998).

Table 2 – VIF Coefficients, Means, and Standard Deviations of Items

Items	VIF	Mean (Male)	Standard deviation (Male)	Mean (Female)	Standard deviation (Female)
ATM1	2,434	4,74	1,326	4,92	1,325
ATM2	2,854	4,43	1,409	4,63	1,360
ATM3	2,439	4,60	1,353	4,68	1,397
BP1	1,986	5,22	1,211	5,32	1,334
BP2	2,404	5,33	1,323	5,66	1,294
BP3	2,374	4,96	1,584	5,12	1,629
COM1	2,325	5,13	1,343	5,33	1,316
COM2	2,453	4,86	1,482	5,05	1,399
COM3	2,201	5,61	1,296	5,52	1,425
I1	1,404	5,18	1,304	5,30	1,351
I2	1,552	5,40	1,288	5,61	1,193
I3	1,638	5,03	1,429	5,12	1,359
I4	2,184	4,70	1,462	4,85	1,323
I5	1,905	4,83	1,306	5,05	1,256
I6	1,760	5,14	1,328	5,21	1,316
WOM1	2,129	4,81	1,399	4,98	1,379
WOM2	2,489	4,90	1,336	5,00	1,318
WOM3	1,889	4,74	1,326	4,92	1,325

Notes: VIF=Variance Inflactor Factor; ATM=Atmosphere; BP=Psychological Well Being; COM=Communication; INFRA=Infraestructure; WOM = Word of Mouth

Table 3 – Reliability and Validity of Constructs

	Cronbach α	rho_A	CR	AVE
ATM	0,886	0,935	0,928	0,811
BP	0,863	0,865	0,916	0,785
COM	0,871	0,874	0,921	0,795
INFRA	0,834	0,866	0,877	0,547
WOM	0,851	0,854	0,910	0,771

Note: CR= Composite Reliability; AVE= Average Extracted Variance; ATM= Atmosphere; BP= Psychological well being; COM=Communication; INFRA=Infraestructure; WOM = Word of Mouth

In the expectation of verifying the validity of the measurement model, we analyzed the discriminant validity through the three methods provided by the SMART PLS software: Fornell and Larcker criterion (1981), cross-load analysis, and analysis of the Heterotrait-Monotrait correlation ratio (Henseler et al., 2015).

Thus, our analysis started by verifying the criterion of Fornell and Larcker (1981) and, through the results obtained (table 4), we confirmed that the interconstruction correlations are lower than the values of the square root of the extracted mean-variance.

Second, we observed discriminant validity using the cross-loading criterion (Henseler et al., 2015). Table 5 shows that the comparison of the values of standardized factor loadings (marked in bold) of each indicator is, in all cases, superior to the crossed loads concerning the remaining constructs.

In the third discriminant analysis, we analyzed the Heterotrait-Monotrait Correlation Ratio (Henseler et al., 2015). The values obtained (Table 6) confirm that the interconstruct Heterotrait-Monotrait correlations are below the maximum value suggested by the literature (HTMT<0.9) (Henseler et al., 2015).

Table 4 – Discriminant Validity: Fornell and Larcker Criteria

	ATM	BP	COM	INFRA
ATM	0,901			
BP	0,456	0,886		
COM	0,163	0,441	0,892	
INFRA	0,174	0,473	0,588	0,739
WOM	0,295	0,531	0,515	0,538

Notes: ATM= Atmosphere; BP= Psychological well-being; COM=Communication; INFRA= Infrastructure; WOM = Word of Mouth; all correlations are significant (p<0.01); on the diagonal are presented the square roots of the average variances extracted from the constructs.

Table 5 –Discriminating Validity: Cross Loadings

	ATM	BP	COM	INFRA	WOM
ATM1	**0,868**	0,311	0,077	0,089	0,215
ATM2	**0,910**	0,383	0,073	0,091	0,192
ATM3	**0,923**	0,498	0,247	0,252	0,356
BP1	0,426	**0,863**	0,368	0,379	0,439
BP2	0,429	**0,897**	0,383	0,421	0,455
BP3	0,360	**0,898**	0,421	0,453	0,515
COM1	0,137	0,383	**0,891**	0,533	0,469
COM2	0,091	0,371	**0,893**	0,501	0,429
COM3	0,201	0,423	**0,891**	0,538	0,477
I1	-0,080	0,194	0,331	**0,602**	0,331
I2	0,027	0,299	0,351	**0,668**	0,351
I3	0,155	0,318	0,439	**0,735**	0,436
I4	0,129	0,388	0,548	**0,840**	0,472
I5	0,192	0,476	0,501	**0,806**	0,387
I6	0,244	0,329	0,388	**0,759**	0,415
WOM1	0,228	0,482	0,424	0,414	**0,874**
WOM2	0,256	0,476	0,493	0,490	**0,908**
WOM3	0,294	0,440	0,438	0,512	**0,851**

Notes: ATM= Atmosphere; BP= Psychological well being; COM= Communication; INFRA= Infraestructure; WOM = Word of Mouth

Table 6 – Discriminant Validity: Ratio of Heterotrait-Monotrait Correlations

	ATM	BP	COM	INFRA	WOM
ATM					
BP	0,505				
COM	0,164	0,507			
INFRA	0,205	0,531	0,675		
WOM	0,295	0,531	0,515	0,538	

Notes: ATM= Atmosphere; BP= Psychological well being; COM= Communication; INFRA= Infraestructure; WOM = Word of Mouth

4.3 Results of the Structural Model: Hypothesis Test

Hoping to explore significant differences existing in the conceptual model between male and female individuals, we chose to create two distinct groups: Male Gender (N=162) and Female Gender (N=266).

In order to analyze the structural model globally, we observed the R2 values of the endogenous variables present in our conceptual model. Thus, the values in table 7 demonstrate that, although the explanation of the variable psychological well-being is higher in female individuals, the description of the word-of-mouth variable by the other variables in the model is higher in the group made up of individuals from the male gender.

Table 7 – Regression Coefficient

construct	R^2 (Male)	R^2 (Female)
BP	0,345	0,433
WOM	0,434	0,343

Notas: BP= Psychological well-being; WOM = Word of Mouth

Then, we evaluated the hypothesis test results by considering the coefficients of each trajectory present in the model, applying the bootstrapping procedure with 5000 subsamples. The results obtained for the group consisting of male individuals are presented in table 8, and the results obtained for the group consisting of female individuals are shown in table 9.

Indirect Effects

In addition to the research hypotheses studied, we found indirect effects between the constructs during the study since the PLS-SEM estimation allows us to evaluate the indirect effects present in the model. Thus, we present the indirect effects in the model for the group of male individuals (table 10) and the group of female individuals (table 11).

Table 8 – Structural Model (Male N=162)

Hypothesis	Path	β	t values	p values	Confidence Interval (95%) Inferior	superior	f^2
H1	COM → BP	0,088	0,921	0,357	-0,100	0,274	0,007
H2	ATM → BP	0,340	5,294	0,000	0,204	0,454	0,162
H3	INFRA → BP	0,334	4,302	0,000	0,160	0,467	0,098
H4	COM → WOM	0,445	5,987	0,000	0,282	0,578	0,303
H5	BP → WOM	0,351	5,187	0,000	0,216	0,481	0,188

Notas: β= Standardized trajectory coefficients; ATM= Atmosphere; BP= Psychological well being; COM= Communication; INFRA= Infraestructure; WOM = Word of Mouth; f^2 = effect size

Table 9 – Structural Model (Female N=266)

Hypothesis	Path	β	*t* values	*p* values	Confidence Interval (95%) Inferior	superior	f^2
H1	COM → BP	0,281	5,021	0,000	0,173	0,391	0,096
H2	ATM → BP	0,394	7,035	0,000	0,280	0,498	0,273
H3	INFRA → BP	0,270	4,607	0,000	0,145	0,377	0,089
H4	COM → WOM	0,282	4,616	0,000	0,162	0,400	0,094
H5	BP → WOM	0,401	6,149	0,000	0,260	0,518	0,190

Notas: β= Standardized trajectory coefficients; ATM= Atmosphere; BP= Psychological well being; COM= Communication; INFRA= Infraestructure; WOM = Word of Mouth; f^2 = effect size

Table 10 – Indirect effects (Male N=162)

Path	β	*t* values	*p* values	Confidence Interval (95%) Inferior	superior
COM → WOM	0,031	0,850	0,396	-0,029	0,115
ATM → WOM	0,119	3,620	0,000	0,062	0,189
INFRA → WOM	0,117	3,278	0,001	0,056	0,192

Notas: β= Standardized trajectory coefficients; ATM=Atmosphere; BP= Psychological well being; COM= Communication; INFRA= Infraestructure; WOM = Word of Mouth

Table 11 – Indirect effects (Female N=266)

Path	β	*t* values	*p* values	Confidence Interval (95%) Inferior	superior
COM → WOM	0,113	4,192	0,000	0,066	0,173
ATM → WOM	0,158	4,583	0,000	0,097	0,231
INFRA → WOM	0,108	3,297	0,001	0,050	0,176

Notas: β= Standardized trajectory coefficients; ATM= Atmosphere; BP= Psychological well being; COM=Communication; INFRA=Infraestructure; WOM = Word of Mouth;

5. Discussion and conclusions

To study the factors influencing word of mouth by the residents of the cities, we identified that the marketing communication of the city, the atmosphere of the territory, and its infrastructures influence the well-being of the residents and, consequently, the word of mouth of the residents.

To test the research hypotheses, we evaluated the structural coefficients (β) and the significance of each relationship using the Student's t-value and p-value. Furthermore, in each relationship found, we calculated the effect size value (f 2). According to Hair et al. (2016) the f 2 values represent, depending on the value presented, weak effects between the independent variables (f 2 ≤ 0.15), average effects (0.15 < f 2 < 0.35) or substantial effects (f 2 ≥ 0 .35).

In the analysis of hypothesis H1, the role of city marketing communication in explaining the psychological dimension of subjective well-being is not clear. If, on the one hand, we found that, in male individuals, the effects are non-existent, on the other hand, in the group made up of female individuals, the effects exist; they are significant although they are considered weak. Although the H1 hypothesis is not supported for the male subjects, it was statistically significant for the female group.

In the hypothesis test carried out on the relationship between the atmosphere of the territory and the psychological well-being of individuals, our study found that the effects in both groups (male and female) are similar. In this sense, we conclude that the atmosphere of the place decisively influences the psychological well-being of the groups of individuals analyzed. However, the effects appear to be stronger in the female group. Thus, we consider that hypothesis H2 was supported by our study in both groups of individuals.

Hypothesis H3 is supported by our study, although the existing effects are considered weak in both groups. Since the infrastructure construct is reflected in leisure activities, we consider that these results are due to items that reflect the concept of Gómez, Lopez, and Molina (2015). Individuals residing in cities may not use these infrastructures, which leads to the local infrastructures being of little significance in the psychological well-being of individuals. Another explanation we found for the weak effects of infrastructure on the psychological well-being of individuals is related to the fact that the minimum infrastructure a city should have, so the lack of such infrastructure in cities can reduce the well-being of individuals. Still, its existence does not necessarily imply greater well-being, namely at the psychological level.

Hypothesis H4 shows differences in analysis in comparing the two groups analyzed. In the study of male individuals, we found that the city's marketing communication significantly influences word of mouth made by individuals. However, in females, the significant effects are considered weak. Despite this, we assume that the study supports hypothesis H4. In testing hypothesis H5, we considered that the results in both groups are similar. Based on the results, we consider that the well-being of individuals living in cities influences their word of mouth. In this context, hypothesis H5 is supported in both groups.

6. Theoretical and Practical Contributions

Thus, in our study, we realized that the atmosphere and infrastructure of cities have relevant effects on the psychological well-being of individuals. Consequently, through indirect effects, our study also concludes that the atmosphere and infrastructure of cities influence word of mouth in both male and female individuals. This study also reveals that marketing communication by cities affects word of mouth differently. On the one hand, in males, the effects of communication in cities only directly influence word of mouth, with no indirect effects through psychological well-being. In the female group, word of mouth is directly affected by the communication of cities and indirectly through individuals' well-being.

Thus, we consider that there are practical contributions that emerge from the realization of this study. In this way, we believe that cities should have infrastructures that promote the well-being of the resident population through the existence of places where opportunities arise for individuals to spend their free time. In addition, we also consider that the managers of these cities should consider the atmosphere of cities. Thus, creating a calm and relaxing city provides greater well-being and, consequently, word of mouth dissemination of the city. Although the communication of cities has had different conclusions for the groups studied in this investigation, we consider that communication directly or indirectly influences word of mouth. Thus, we suggest that cities promote their best to their residents, making the necessary publicity, for example, for existing events.

7. Limitations and Future Suggestions

During this study, we found some limitations that may have contributed to the results presented. In this sense, we consider that the sample is mainly made up of individuals under 30 years of age may have been a limitation. Thus, we suggest that other samples be investigated. Our study only considered the psychological dimension of well-being. We believe investigating a conceptual model that includes physical well-being will have exciting results in this sense.

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The relationship of online trust with Consumer Generated Media: the case of Booking

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Abstract

Companies have undergone transformations in how they operate and promote their products and services, whether online and/or offline. As a result of this evolution, the tourism sector was not left out and consequently had to adapt to differentiate itself and ensure a competitive advantage. Thus, new innovative platforms emerged, such as Booking and TripAdvisor, that aggregate several services that tourism consumers increasingly use to plan and make their accommodation reservations. With the emergence of these platforms and the increased use by consumers, Consumer Generated Media (CGM) has emerged in parallel, growing exponentially and exerting a significant influence on booking tourist accommodation. The present research is based on a quantitative analysis utilizing a questionnaire survey based on the Trust Building Model. This model is divided into three main categories: website-based, company-based, and customer-based antecedents. Thus, we identified antecedents that influence online trust in CGM on the Booking platform and studied whether this trust affects the behavior of the travel consumer on the same platform, causing him to adopt the recommendations and practice eWOM. It was concluded that perceived source credibility, information quality, perceived website quality, user satisfaction with previous experiences, and user experience and knowledge are the antecedents that affect online trust in CGM.

Keywords: Booking, Online Trust, Consumer Generated Media, Trust Building Model

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1. Introduction

After the 50s of the 20th century, tourism began to gain more importance following the Industrial Revolution. The completion of the industrialization process in some countries, better living conditions, both economically and professionally, and the improvement of transport, allowed an increase in travel around the world (Akis, 2011). According to Gyr (2010), a new travel culture dubbed middle-class travel emerged, paving the way for recognizable mass tourism according to modern leisure concepts. For many years, tourism has been considered an activity and a strategic sector for the national economy. The Internet has made its mark on society by allowing people to come together and spread information (Pinto, 2014).

Currently, there are more than four and a half billion Internet users worldwide, with a higher incidence in the Asian continent representing more than half of the users (50.7%). Next is the European continent, with 16%, and in Portugal, Internet users correspond to 8 million (Internet World Stats, 2019). Research indicates that the Internet is an essential source of information dissemination, as tourists use it to plan their trips and share their experiences. In addition to sharing their experiences, it is also where they find such information, with 95% of Internet users saying they rely on information to help them in the decision-making process (Cox, Burgess, Sellitto, & Buultjens, 2009). Platforms such as Booking are increasingly used by travel consumers, as studies indicate that 4 out of 5 people book their vacations online using these platforms (ABTA, 2018). The present research aims to study the online trust in Consumer Generated Media (CGM) of the Booking platform. - Booking is currently one of the most used platforms by the Portuguese, having a high level of customer satisfaction regarding the service provided (Lu, Ting, & Hsu, 2017) and the CGM is becoming a source of information 50% more credible and reliable than others and appreciated by its users (Medium, 2017).

2. Literature Review

2.1. Tourism and the Internet

Tourism is defined as the activities that an individual performs during a trip, staying somewhere outside his or her residence, for less than a year, for leisure or business purposes and not performing a paid activity in the place he or she visits (OMT - World Tourism Organization, 1995). Nowadays, when it comes to planning a trip and, more specifically, booking tourist accommodation, the Internet has become a significant external source of information (Murphy, Chen, & Cossutta, 2016). As a result, a Virtual Tourism Community emerged, making it simpler for consumers to obtain information about destinations and prices, develop relationships, and eventually make the purchase decision easier (Stepchenkova, Mills, & Jiang, 2007). To Katz (2013), during the buying process, the tourist goes through six stages: dreaming, researching, planning, booking, experiencing and sharing. As a result, tourist habits change in the way they "(...) search, find, read, trust and produce information about tourism service providers and destinations" (Sigala, Christou, & Gretzel, 2016, p.7).

2.2. Consumer Generated Media

The phenomenon called CGM is gaining more and more relevance in the tourism sector, becoming the main source of information for consumers (Ayeh, Au, & Law, 2013). Digital platforms have brought a new paradigm to tourism. Through them, consumers are increasingly closer, thus lowering the barriers between them since they can now share their experiences with a product and/or service through comments, photos, and videos, among others. This type of content has a more significant impact and generates more positive attitudes than content generated by companies (Filieri & McLeay, 2013). So, Consumer Generated Media (CGM), also known by the Anglo-Saxon terms User Generated Content, Consumer Generated Content and User Created Content, refers to any content created and shared on the Internet in a public way that is available in various formats to an individual or a group of people (Daugherty et al., 2008; Freitas, 2016). In other words, CGM is related to digital transformation and refers to written reports, sounds and images of consumer stories about their travel experience that, on the one hand, can be used to verify the actual reputation of tourist accommodation and, on the other hand, contribute to recovering that reputation. The CGM provides information on the tourism industry, such as the experiences and opinions of particular tourist accommodations. That said, CGM is the opposite of traditional Media because it is not so easily controlled, thus significantly impacting the reputation of tourist accommodations (Albastroiu & Felea, 2014).

2.3. The Online Trust

In recent years, CGM has become more popular, and as a consequence, its users' trust has started to be questioned. There are many reports of fake reviews and stories of hotel managers posing as customers to write adverse reports of their competition to

affect them. Due to this seemingly uncontrollable increase in false and promotional content on CGM, a concept such as online trust takes on particular relevance (Filieri et al., 2015). Many researchers have studied the issue of online trust, such as Jarvenpaa, Tractinsky, & Vitale (2000) and Beldad et al. (2010). There are several definitions for online trust, which can be defined in various ways, making there is no agreed-upon definition. For McKnight & Chervany (2001, p.1), online trust is defined as "an individual's belief about various attributes of the other party" involved in an e-commerce relationship and can be measured through, for example, attributes of fairness, kindness and strength. For Jarvenpaa et al. (2000), trust is a belief in integrity, benevolence and ability. Whereas for Beldad et al. (2010, p.1), trust is "considered a precondition for the adoption of services/products in electronic form." In the case of online trust, it is very important that organizations work well on their reputation, performance and appearance, appearance corresponding to website design, for example. While in offline trust, the object of trust is usually a person or an entity, in online trust, it is the technology and the information that is present on the website, such as the CGM (Beldad et al., 2010). For Filieri et al. (2015), CGM becomes available online without any supervision, and therefore, the trust of potential consumers towards it is excellent. This online trust can be based on several factors, such as the quality of the website, the credibility of the source, and the level of satisfaction with previous experiences, among others.

2.4. The Booking Platform

The Booking platform started as a small Dutch start-up founded in 1996 in Amsterdam but quickly grew into one of the largest companies in the travel industry. The platform is available in more than 40 languages and offers more than 28 million tourist accommodations. Booking operates in the business-to-consumer market because it sells its services to end consumers. In Portugal, Booking is widely used and, according to a study by Marktest (2019b), had a reach of 1 million 290 thousand individuals, ranking second in the e-commerce websites/platforms most visited by the portuguese, this being the justification for choosing Booking as the platform studied. Booking's value proposition is based on four concepts (Freitas, 2016; Laudon & Traver, 2013): I) Personalization and customization; II) Reduction of service search costs; II) Reduction of price comparison costs, and III) Facilitation of transactions. In order to be able to meet this value proposition and acquire a more detailed and more profound knowledge of the customer to make possible the personalization of communication and the customization of services, the Booking platform uses two types of tools: I) Clickstream behavior collects information from where the user clicks to the number of pages he visits, and II) Cookies store information about the user from the moment he enters the platform. Through the combination of these tools, the Booking platform acquires customer data such as name, age, gender, and preferences (Freitas, 2016; Laudon & Traver, 2013). In order to ensure the credibility of the source, the Booking platform only allows registered users who have stayed at the tourist accommodation to share their opinion about it through the CGM. With this rule, the platform intends to achieve reliable information, seeking to reduce at the time of purchase and/or reservation the cognitive dissonances in order to increase sales and demonstrate that the CGM present on its platform is of quality (Laudon & Traver, 2013; Barreto, 2015; Freitas, 2016).

3. Methodology

The objectives of this research are: I) To investigate the antecedents that influence online trust in CGM on the Booking platform; II) To understand if online trust in CGM affects the travel consumer behavior of the Booking platform.

The quantitative methodology, supported by a questionnaire survey, based on the model already used by Filieri, Alguezaui, & McLeay (2015), called Trust Building Model based on the model created by Beldad, de Jong, & Steehouder (2010). This approach was adopted based on non-probability convenience sampling (Thomas, 2003). The sample consists of respondents who, in the past 12 months, at the time of searching and/or booking tourist accommodations on the Booking.com platform, have used the CGM (images, reviews/comments, scores of the accommodation).

The model uses the antecedents of online trust and applies them to the CGM. In addition, it adds to the model two variables that will be studied as the consequences of CGM. Thus, by adopting this model, it is intended to investigate which antecedents and consequences influence online trust in the CGM applied to the travel and tourism industry, more specifically to the Booking.com platform and what consequences this leads to, as shown in Table 1. Thus, it is considered that online trust in CGM has consequences for the adoption/acceptance of the recommendations of reviewers/critics by purchasing the recommended product/service and promoting the website through the WOM (Filieri et al., 2015).

Table 1 – Antecedents that influence online trust

	Website-based antecedents	Company-based antecedents	Customer-based antecedents
Variables	Credibility of the perceived source Quality of information Perceived quality of the website	User satisfaction with previous experiences using the CGM	User experience and knowledge when using CGM

Source: Own elaboration, adapted from the model by Filieri et al. (2015)

3.1. Conceptual Map and Hypotheses

The hypotheses presented are based on the literature review and the research model by Beldad et al. (2010) and Filieri et al. (2015).

H1: Perceived source credibility positively influences online trust in CGM on the Booking platform.

According to Park, Lee, & Han (2007, p.128), the quality of information embedded in an online review is defined as "the quality of the content of a consumer's online review in the form of information characteristics". The more credible the information in online reviews, the more critical it is in decision-making (Cheung et al., 2009). Therefore, if consumers feel that information in online reviews is reliable, current, valid, valuable, and meets their needs, they will trust the CGM.

H2: The quality of the information in online reviews positively influences online trust in Booking's CGM.

"*The quality of the information in online reviews affects consumers' perception of the perceived source's credibility*" (Filieri, 2015, p.1263). This means that online reviews that contain valid arguments, and current, accurate, complete and detailed information about a product, develop a positive attitude in consumers and believe more in its credibility. On the other hand, online reviews that contain invalid arguments, with a short, superficial, emotional and inaccurate description of the product development in consumers a negative attitude, rejecting its credibility (Cheung et al., 2009; Fanoberova & Kuczkowska, 2016; Filieri, 2015; Filieri et al., 2015).

H2.1: Information quality positively influences perceived source credibility.

The main challenge for the hotel industry operating online is to convert the website visitor into a buyer (Chang, Kuo, Hsu, & Cheng, 2014). Nevertheless, this requires that the website is appealing and that its information is quality. The quality of the information on the website, that is, in online reviews, can be considered an antecedent of the perceived quality of the website. When a website has a CGM, created by online reviews, which is considered to be of quality, it means that the website lives up to expectations. The perceived quality of the website may derive from the features it offers to the consumer, security and privacy, and page loading speed, among others. Consequently, consumers interpret that the CGM present on it is quality and allows them to make an informed purchase decision (Filieri et al., 2015).

H2.2: Information quality positively influences the website's perceived quality.

For Filieri et al. (2015), if the quality of the information on the website is convincing, good and acceptable to the consumer, it will affect their satisfaction. Consumers visit websites with CGM mainly to consult and extract information from former consumers who have tried a particular product or service and shared their opinions/experiences. If this information helps the consumer to effectively choose which tourist accommodation and plan their trip, they will be satisfied and have their needs met and will most likely return to the website in the future (Bai, Law, & Wen, 2008).

H2.3: Information quality positively influences user satisfaction.

For Yang, Cai, Zhou, & Zhou (2005), website quality refers to the consumer's perception of the website's performance in extracting and providing information. Combining a website's information quality and good design improves online consumer trust (Fung & Lee, 1999; Harrison McKnight, Choudhury, & Kacmar, 2002). The quality of a website can be assessed through ease of navigation, communication, privacy, and security, among others. A website does not have a "face", so the first impressions that the consumer has in the interaction area, i.e. the homepage, are formed there. If the CGM on a given website forms a positive impression, the consumer will more quickly come to trust it (Filieri et al., 2015).

H3: Perceived website quality positively influences online trust in the CGM of the Booking platform.

By encouraging the sharing of opinions and experiences among consumers, websites containing CGM are making consumers more satisfied and able to arrange trips on their own (Filieri et al., 2015; Litvin, Goldsmith, & Pan, 2008). If a website can meet consumers' needs by making their tasks easier, the greater their satisfaction will be (Filieri et al., 2015).

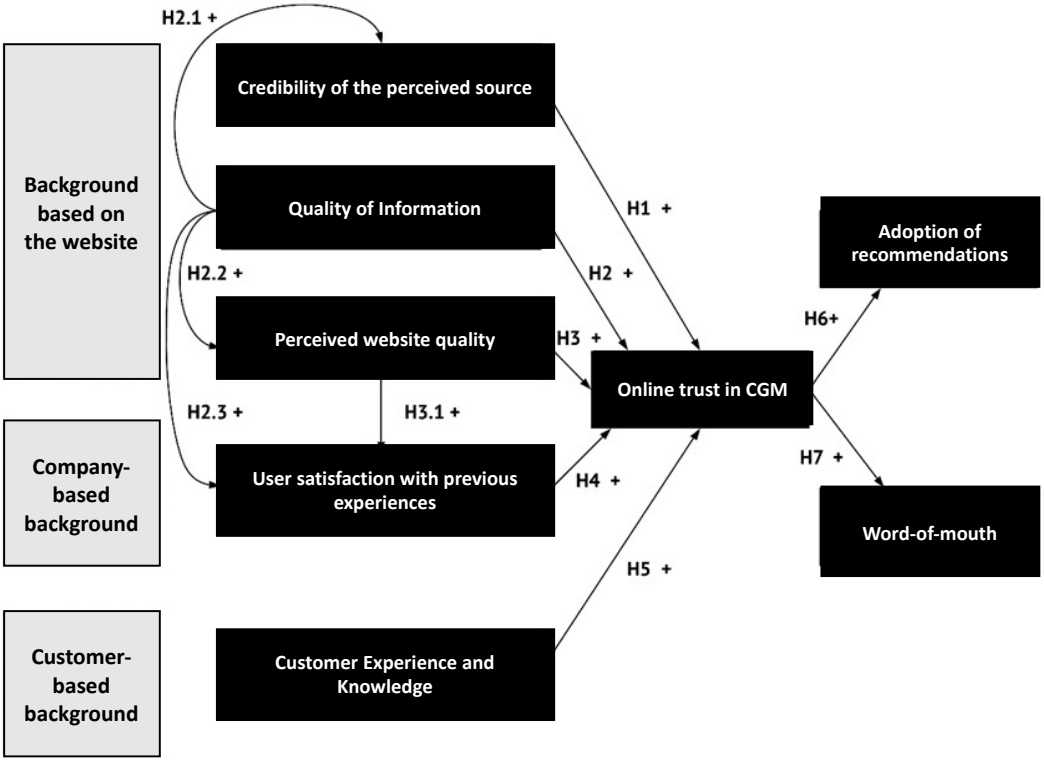
H3.1: Perceived website quality positively influences user satisfaction.

Customer satisfaction is measured as a customer's overall satisfaction based on all their cumulative experiences with a company, a product or a service (Olsen & Johnson, 2003). According to Casalo, Flavi and Guinaliu (2007), Flavián, Guinalíu & Gurrea (2006), Pavlou (2003) and Yoon (2002), cited by Filieri et al. (2015), a positive previous experience determines customer trust. The better the previous experience with the website and the information received, the higher the level of trust the consumer will have about it (Beldad et al., 2010; Boyd, 2003). When consumers plan their trips using websites containing CGM, they want it to help them improve their decision-making. If the information contained in the CGM allows the consumer to find tips, advice and reliable experiences, he will be satisfied. However, if he finds information contained in the CGM that is false, emotional and biased, it is very likely that the consumer will not be satisfied and will tend not to trust the website. At the same time, consumers who are satisfied with their previous experiences feel more open to trusting the recommendations received through the CGM (Filieri et al., 2015).

H4: User satisfaction with previous experiences positively influences online trust in the CGM of the Booking platform.

The level of experience in using the CGM and those in the decision-making process may be relevant factors to consider when investigating the antecedents of online trust (Beldad et al., 2010; Filieri et al., 2015). Brown, Broderick, & Lee (2007) argue that customers with little experience may become naïve and believe all the information they find on the Internet. According to Corbitt et al. (2003), cited by Filieri et al. (2015), the lack of experience can lead to naivety and credibility of all information on the Internet because a consumer who is experienced in using the CGM feels capable enough to understand if it is trustworthy and is present on a trustworthy website that does not contain false reviews. On the other hand, a consumer inexperienced in using CGM remains more withdrawn and cautious.

Figure 1 - Conceptual model



Source: Own elaboration, adapted from the model by Filieri et al. (2015)

H5: Customer experience in using CGM positively influences online trust in the CGM of the Booking platform.

According to Cheung et al. (2009), information adoption is the process by which people become engaged with the use of information. For Senecal & Nantel (2004), in the 37 areas of tourism, the recommendations of other users for a particular service are even more critical than in other areas because they are intangible products. In the context of CGM, Filieri et al. (2015) believe that the higher the trust in online recommendations, the more likely consumers are to follow them. Nevertheless, to do so, they need to believe that the website with those recommendations is impartial and not at risk of being misled.

H6: Online trust in the Booking platform's CGM positively influences the adoption/acceptance of online recommendations.

Consumers who believe the CGM is worthy and trustworthy are more willing to share this information with their close friends and acquaintances (Filieri et al., 2015). That said, the following hypothesis is formed:

H7: Online trust in the CGM of the Booking platform positively influences Word-of-mouth.

The conceptual model is presented in figure 1.

4. Discussion

This study applied a quantitative methodology and non-probability convenience sampling. We obtained 237 valid answers and used the statistical program SPSS IBM Version 26. In the first phase, an analysis of the demographic and behavioral data of the individuals belonging to the sample was applied. Then, more specific tests were performed, such as reliability tests, Linear Regression analysis, and t-tests.

In Table 2, the results of the hypotheses tested are systematized, and it can be concluded that all the hypotheses tested were validated.

Table 2 - Systematization of the results of the hypotheses tested

Hypothesis	Pearson Correlation	Result
H1+	0,563	Validated
H2+	0,516	Validated
H2.1+	0,503	Validated
H2.2+	0,552	Validated
H2.3+	0,522	Validated
H3+	0,603	Validated
H3.1+	0,646	Validated
H4+	0,761	Validated
H5+	0,506	Validated
H6+	0,642	Validated
H7+	0,514	Validated

Source: Elaboration and own data

Throughout the research, it was possible to see that online trust in CGM is affected by several factors. Currently, online trust in CGM is being threatened by the credibility and quality of information, specifically online reviews, due to the increase in fake and paid content by managers to increase sales of a product or service (Filieri et al., 2015).

The relationship between perceived source credibility and online trust in CGM was measured, and it was found that there is a positive relationship between these. However, in the original study, the authors argue that source credibility does not influence trust because, for them, consumers are aware that fake profiles are easily created, and not all sources are considered credible (Filieri et al., 2015). However, the results present in this research evidence that consumers are aware that the reviewers were

credible, experienced, trustworthy and reliable, making the consumer feel confident towards the reviewers. This difference between the original study and this one may occur because the first study was conducted for the TripAdvisor platform, which does not restrict the creation of profiles. In contrast, the Booking platform tries to limit the comments associated with profiles only to contain 100% original, unique and credible comments.

The relationship between the quality of the information in online reviews and how these affect trust in the CGM was also measured. After the research, it was found that the better the quality of online reviews, the more consumers tend to trust CGM. The quality of the information was also measured to see if it would affect the credibility of the source, the perceived quality of the website, and user satisfaction. Moreover, the results showed that if the information in the online reviews is valuable, useful, timely and meets the consumer's needs, it will make the consumer trust CGM. That being said, one of the main reasons for online trust in CGM is the quality of information that consumers find because it will affect several variables, and if the quality of information is high, consumers will be satisfied and continue to trust CGM (Filieri et al., 2015). It was concluded that the perceived quality of the website affects not only online trust in the CGM but as well as satisfaction with previous experiences, which is in line with studies already conducted which state that if the CGM present on a particular website forms a positive impression on the consumer, the consumer will more quickly come to trust it (Filieri et al., 2015; Litvin et al., 2008).

Regarding the correlation between user satisfaction with previous experiences and online trust in CGM, it was concluded that a consumer satisfied with their previous experiences tends to trust CGM online, which is in line with other research already conducted and which states the same (Beldad et al., 2010; Boyd, 2003).

Regarding the correlation between the variable customer experience and knowledge in terms of navigating and using the CGM, it was noticed that it is a factor that influences online trust because, through the analysis, the correlation value was positive. This means that a more experienced user can trust the CGM less than a less experienced user can become naive and believe all the information they find (J. Brown et al., 2007; Filieri, 2015).

Finally, concerning online trust and its consequences, it was realized that if the consumer, when trusting the CGM, tends to adopt the online recommendations and pass the word (WOM) to their friends and acquaintances, the results are in line with a study already conducted by Cheung et al. (2009) that concluded the same. In short, the higher the level of online trust in the CGM, the more affected is the consumer's behavior is influenced in their decision-making and their behaviors (Filieri et al., 2015).

5. Conclusion

The growth of the Internet and the increase in its use by the Portuguese, combined with the development of new web 2.0 applications, has triggered a new reality in the tourism sector. The tourist is now dominated by information, making more comparisons between them, and giving great importance to their peers and the evaluation systems available on platforms such as Booking or TripAdvisor. Information in tourism is now accessible by anyone at any time, playing a vital role in this area, which we call CGM. In the tourism industry, consumers are more active in how they search for this type of content and in how they share it. Regarding the WOM concept, through the literature review and this research, we conclude that this is a consequence of CGM because when the consumer accepts what is transmitted to him through the CGM, he will pass the word to his friends and acquaintances. Therefore, a model composed of 8 variables was proposed based on a model already tested by Filieri et al. (2015). To understand if the online trust in the CGM would have consequences for the adoption/acceptance of the reviewers' recommendations by purchasing the recommended product/service and promoting the website through the WOM, a questionnaire was developed with 237 valid answers. The sample was made up entirely of Portuguese, mostly females (68.4%), and 92.4% were aged between 18 and 54.

As for the use of the various types of CGM, the respondents stated that the type of CGM most used by them are texts/comments (83.1%), followed by photos/images (73.4%) and accommodation scores (68.8%). Regarding frequency, more than half of the respondents stated that they used the platform's CMG quite frequently in the last 12 months and the last month. Through the descriptive analysis of the variables, it was perceived that in the variable "Credibility of the perceived source", the respondents partially agreed that the reviewers/critics were credible, experienced, trustworthy and reliable. Regarding the variable "Quality of information", the respondents agreed that the information in the online comments was timely, relevant, met their needs and was helpful. They also stated that they partially agreed that the information present in the online comments was valid or credible.

Regarding the variable "Perceived quality of the website", respondents agreed that the Booking platform is easy to use and responsive and can access from several devices. Also, in the variable "Perceived quality of the website", respondents partially agreed that the hyperlinks were well organized, the platform provided customized search functions, had a fast page load and guaranteed privacy. On the variable "User satisfaction with previous experiences", respondents said they were satisfied with the information they received through the platform and their previous experiences. In the variable "Customer experience and knowledge", respondents considered themselves quite experienced when using and navigating the CGM and online recommendations. On the variable "Online trust in CGM", respondents agreed that the information offered by the platform was sincere and honest, the advice and recommendations were made for the mutual benefit of reviewers/critics and customers, and the platform was trustworthy. In the variable "Adoption of the recommendations", the respondents agreed that online reviews

made their purchase decision more accessible, increased their effectiveness in making a purchase decision, and motivated them to make a decision. The same respondents stated that the last time they read online reviews, they adopted/accepted consumer information and that the information in the online reviews contributed to their knowledge of a particular product and/or service. On the word-of-mouth variable, respondents sometimes mentioned to others that they looked for travel information on the Booking platform and made sure that others knew that they trusted the Booking platform for travel information. They also stated that they often spoke positively about the Booking platform and recommended the platform to close friends. It was possible to see that the credibility of the source is a factor that influences online trust in CGM. As for the quality of information, it was realized that the better the quality of information consumers find, the more they perceive the website to be of quality, which will lead the consumer to be more satisfied, tending to trust CGM. Furthermore, the perceived quality of the website affects not only the online trust in CGM but also the user's satisfaction with their previous experiences, and a secure website guarantees the consumer's privacy and is easy to use will make the consumer feel more confident to "accept" the information present in it.

The correlation between user satisfaction with previous experiences and online trust in CGM concluded that a consumer satisfied with his previous experiences tends to trust CGM online. A more experienced user, on the other hand, can trust CGM less than a less experienced user because less experienced users may be more naive and believe all the information they find. The results also proved that online trust affects two types of consumer behavior, the adoption of recommendations motivating them to buy or not a product and helping them to make a decision, and the WOM making them share with their friends that they were satisfied with the information they found.

To the defined objectives, it was concluded that the credibility of the perceived source, the quality of the information, the perceived quality of the website, the user's satisfaction with previous experiences, and the user's experience and knowledge are the antecedents affect online trust in CGM. In addition to these antecedents, adopting recommendations and WOM are the consequents of online trust in CGM, which affect consumer behavior. Finally, it was understood that all the antecedents and consequences that encompass the research are the factors that influence online trust in the CGM, being that the antecedent based on the company that corresponds to the variable "User satisfaction with previous experiences" was the one that showed a higher level of correlation with the trust with a value of 0.761.

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