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CONSUMER BEHAVIOR IN THE DIGITAL AGE

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ABSTRACT

In recent decades, the Internet, evolving technologies, and social media have led to the evolution of consumer behavior. The changes in customer behavior driven by digital developments provide many opportunities and challenges that businesses also need to deal with online. The better companies know about the behavior of their customers, the easier they can engage with them using strategies such as content marketing, User Experience (UX), influencers marketing, User-Generated Content (UGC), or Electronic Word of Mouth (eWOM). These strategies are essential to get more sales and to develop businesses online, as such strategies increase the engagement with users and influence their behavior. This Special Edition of JOSD focuses on the analysis of consumer behavior in the digital age and, by doing so, contributes to extant knowledge about digital marketing strategies, online consumer behavior, and new digital business models such as mobile applications or shared economy.

Keywords: Consumer Behavior, Digital Age, Digital Strategies, Digital Business.

JEL Classification: M3, M31, M37

1. INTRODUCTION

In the last decade, Internet strategies have rapidly evolved. In response to the challenges of today's new era, users have adapted their behavior on the Internet (Urban, Sultan, & Qualls, 2000). These changes have led to the development of new user habits and behaviors in a digital environment that is increasingly characterized by personalized strategies to attract new users (Reyes-Menendez, Saura, & Filipe, 2019).

In a digital ecosystem where companies need to understand their users and consumers online, the fundamental basis of business models that operate on the Internet should include the strategies such as user experience (UX), influencer marketing, user-generated content (UGC), or electronic word of mouth (eWom) (Saura, 2020).

The data generated by users as a result of their activity in their profiles on social networks, websites, digital platforms, or interactions with multimedia elements that belong to the digital marketing strategies of companies create data points that offer important

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information about demographics, geographical data, interests, or lifestyle habits of users (Dwivedi, Johnson, Wilkie, & De Araujo-Gil, 2019). All these data must be analyzed by companies in order to appropriately segment advertising and propose digital segmentation strategies that can adapt to user behavior in this digital ecosystem (Kietzmann, Hermkens, McCarthy, & Silvestre, 2011).

Based on the analysis of such data and Internet user behavior, companies have increasingly sought to understand the factors that influence users' online decision making. These factors can be determined by the influences among users on the Internet, reviews or opinions, personal experiences of close friends, and a multitude of other factors and interactions that can occur in digital environments such as social networks (Gursoy, 2019).

In addition, there is evidence that users' customer journey is changing over time, as customer behavior is getting increasingly influenced by digital advertising and the ease of making purchases in digital environments. The ease of using e-commerce websites has dramatically evolved in the last decade (Demmers, Weltevreden, & van Dolen, 2020). In this context, it becomes imperative to know how these changes in user behavior should be adapted—both from the point of view of users themselves, i.e. taking into account factors related to privacy and data processing of their data, and from the point of view of companies which must adapt their digital strategies to capture and generate leads to retain the customers online (Herhausen, Kleinlercher, Verhoef, Emrich, & Rudolph, 2019; Grewal & Roggeveen, 2020).

Accordingly, the role of factors such as UGC and eWOM has been extensively investigated in the literature (Reyes-Menendez et al., 2020). Regarding UGC, companies can use this type of content to understand the main user concerns, as well as to analyze their comments, opinions, attitudes, or any other online actions. This type of content is publicly generated by users and is free from bias caused by companies (Krumm, Davies, & Narayanaswami, 2008).

The analysis of such content allows companies to better understand the trends in user communities that focus on companies' products and services (Naaman, 2012). Following this line of research, companies can identify user communities and, within these, find opinion leaders who can become influencers (and thus help companies to promote their products and services). Likewise, in recent years, eWOM has become one of the main strategies to both attract and retain users. Users feel comfortable using social networks and their profiles on multimedia platforms to generate video, music, or any other type of multimedia content (Amato, Castiglione, Moscato, Picariello, & Sperlì, 2018).

In these ecosystems, users are influenced by getting more followers or generating greater engagement in user communities. Opinions of other users—for instance, expressed through reviews and comments—also play a fundamental role in user decisions (Cheng & Jin, 2019). From the companies' perspective, a strategy must be developed to generate positive opinions about the company's products and services on the Internet, so that users can identify a positive reputation relative to the company and its products and services on the Internet (Smith, 2011).

In this context, this special issue aims to explore the factors that influence user behavior in the digital age, with a specific focus on the main digital marketing techniques used to promote various types of content published by online users.

2. HOW HAS CONSUMER BEHAVIOR CHANGED IN THE DIGITAL AGE?

2.1 Social Media and Purchasing Behavior

In a study on buying behavior of users in Malaysian restaurants by analyzing social networks, Jeetesh, Konar and Balasubramanian (2020) find that, in recent years, the restaurant industry and social networks have seen an increase in the generation of digital data and publicly accessible information. Based on the results, the authors argued that social networks can influence consumer pre-purchase behavior and online purchase decisions.

Focusing on the Malaysia restaurant industry, and specifically the food sector, the authors investigate the role of eWOM and its relationship with social media and online marketing communities. Specifically, Jeetesh et al. (2020) explore whether greater accessibility to information and the online ordering system can stimulate consumer purchasing behavior.

The results of applying the PLS-SEM analysis methodology to analyze the data of 270 consumers over three months suggest that eWOM, social media advertising, and online ordering systems are central factors that determine user buying behavior. At the same time, the opinions of other users on the Internet are not found to significantly influence user purchase decisions in the restaurant and leisure sectors.

This evidence suggests that companies should focus on the control and management of opinions and reviews that users make online about their products, taking into account the specific sector where they operate. Said differently, it is not enough to have a well-designed digital platform: on top of that, the product or service itself should also ensure a good user experience.

Consequently, while negative user opinions and comments can significantly affect online companies' strategy, a well-designed digital platform is not the key to increase purchases. Although it is true that according to Jeetesh et al. (2020), these actions do not influence users pre-purchase behavior, but it influens the opinion that user have about the product buying process.

2.2 Mobile Application Using Eye Tracking

Žiaran, Antolín and Lacaci (2020) argue that, in order to study user behavior on the Internet, companies should adapt their strategies to include mobile applications. Mobile applications, understood as a new channel, have led many users and consumers to change their behavior in the digital ecosystem, as a mobile phone is a new purchase medium.

Žiaran et al. (2020) aim to analyze the differences between the responses to a questionnaire where eye-tracking was used to compare the results against the stimuli presented in the questionnaire.

The results of this study demonstrate that it is possible to predict user responses by simply observing the items shown in the questionnaire. The results of this study can be used in mobile applications to improve both the design of such applications and user experience.

Implications are presented focused on measuring the relevance that biometric metrics approach has on user behavior analysis to create or design future mobile applications. The results of this study highlight the importance of avoiding distractions in ecosystems where there is a lot of "noise" to implement marketing strategies, while we are on move for example, using mobile phones.

The results reported by Žiaran et al. (2020) can help improve navigation aspects related to user visualization and concentration, as well as provide a deeper understanding of how users browse the Internet and how user behavior can be modified. The iconographic and visual elements identified in this study can define companies' identity strategies, as well as guide the design of their platforms and profiles on social networks.

In conclusion, Žiaran and co-authors (2020) emphasize a strong connection between explicit and implicit metrics. The results empirically demonstrate that it is possible to predict user response to a simple questionnaire where the situation of the questions is visually analyzed on a mobile phone by the users. The understanding of how the user experience can be improved if we focus on visual navigation elements in mobile applications is thus analyzed.

2.3 Digital Marketing and Sharing Economy

Polanco-Diges and Debasa (2020) highlight the importance of new shared economy platforms. These platforms are focused on understanding and influencing user behavior. There are different digital strategies to attract and retain users who enjoy this type of platforms. In their systematic literature review, Polanco-Diges and Debasa (2020) analyze the strategies, techniques and tactics implemented on collaborative economy platforms and obtain added value from the analysis of the data generated by users.

The authors show that the shared economy platforms influence online user behavior and explain how digital platforms connect the supply and demand capacity of Internet users. Likewise, these types of platforms offer transactions related to the acquisition and rental of properties and collaborative ways of establishing relationships online. Through the use of such platforms, brands can generate experiences to create consumer trust and emotional rapport between users and companies.

Seeking to understand how users develop their behaviors and actions online, Polanco-Diges and Debasa (2020) review a total of 13 relevant articles on collaborative economy and digital marketing. Based on the results of the review, eight digital marketing strategies are defined—namely, UX (User Experience), SEM (Search Engine Marketing), SEO (Search Engine Optimization), SMM (Social Media Marketing), Freemium strategies, content marketing, CRM (Customer Relationship Management), or influencer marketing. The authors also identify and analyze 12 key factors needed to understand user behavior on shared economy platforms.

Focusing on UGC and eWOM, Polanco-Diges and Debasa's (2020) study provides a comprehensive review of the techniques and key factors needed to understand the impact of digital marketing and shared economy platforms on user behavior.

2.4 Digital Marketing and Fashion Industry

Furthermore, using an exploratory approach, Muniesa and Giménez (2020) investigate digital marketing strategies in the fashion industry and measure their effectiveness. This study also analyzes how fashion brands use digital media and social media to retain their consumers.

The authors indicate that companies must create quality content to define and analyze specific audiences. In the fashion sector, the most active generation is millennials, so fashion brands should use digital media and social networks to retain their consumers. An effective digital strategy that is frequently used in the fashion industry is influencer marketing.

Through influencers in the fashion sector, brands try to change user opinions about their products and services. Through the content that influencers share via digital channels, brands generate trust towards them among consumers.

In their study, Muniesa and Giménez (2020) review a total of 11 articles on digital marketing in the fashion industry focusing on online user behavior. The authors analyze different options to develop digital marketing strategies focused on user loyalty by investing in influencers and other digital strategies so that to increase engagement.

Based on the results, Muniesa and Giménez (2020) argue that one of the ways to effectively transfer a message from a brand to its customers is creativity. Creativity increases the fame of brands, so communications must be made spontaneously and through appropriate channels.

According to Muniesa and Giménez (2020), the most frequently used tools in the fashion sector to retain users and to influence their behavior on the Internet are SEO and SEM, as well as channels such as Instagram, Facebook, and Twitter. The authors also highlight the importance of such information systems as CRM to manage customer data, the use of QR codes to convey to users the channels through which companies are developing their strategies, and Big Data analysis to understand how users generate content. The paper concludes with the identification of the different influences that can affect users.

2.5 Online Risky Behaviors

In their study on adolescents' risky behavior on the Internet and parental mediation, Agapito and Brito (2020) compare the reports on adolescent students of 7º and 12º grades in Portuguese schools. The authors identify and analyze available defense mechanisms to control the behavior of online users, as well as discuss psychological and digital tools that parents may use to control their children's online activity.

Agapito and Brito (2020)mostly focus on age and gender as factors that can determine user behavior on the Internet, both to consume content and to find or identify relevant content. The authors also argue that, from the perspectives of parents, there are risks associated with gender in terms of conversations and negotiations that can be difficult with children and adolescents to establish guidelines for Internet use. Accordingly, Agapito and Brito (2020) propose parental mediations for situations when there is a risk of negative online behavior, e.g. cyber bullying.

In this case, parents should play an important role in the mediation between new media and multimedia supports and the content that their children enjoy. In addition, authors discuss the knowledge that parents have of the Internet and their children's use of technological tools. From this perspective, Agapito and Brito (2020) try to explore the beliefs that Portuguese parents have about the risks of adolescents' online behavior.

The study concludes with an outline of important theoretical implications for future research on the prevention of risky online behaviors among adolescents, the ways in which parents may control such negative behaviors on the Internet, as well as the ways in which parents can evaluate the type of multimedia content enjoyed by their children.

3. CONCLUSION

This special edition provides an in-depth look into user behavior in the digital age. Through the use of different methodologies, the contributions to this volume aim to understand how users behave on the Internet. It is important to indicate that the behavior of users on the Internet is linked to the actions that users carry out through the digital channels in which they invest their time.

The results of the studies in this special issue illustrate that user online actions vary depending on the industry. Pre-purchase and post-purchase user behavior, as well as user engagement and interactions among users in communities on the Internet are essential factors to be understood in this ecosystem.

Data management and protection are major challenges that companies should adequately respond to so that users feel safe when browsing digital platforms.

In future research, it would be necessary to analyze how users make decisions on the Internet, as well as what digital marketing techniques are perceived as safer by users.

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THE IMPACT OF SOCIAL MEDIA ON CONSUMERS' PURCHASING BEHAVIOUR IN MALAYSIAN RESTAURANTS

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ABSTRACT

Over the years, the dynamic advancement of technology has shaped the food and beverage industry in Malaysia. Today, the huge shift in the industry has resulted in consumers seeking readily accessible information. As such, various platforms, mostly social media, have influenced consumers' pre-purchase opinions before purchasing. Nevertheless, limited studies have been conducted in Malaysia, focusing on consumers' purchasing behaviour, specifically in the food and beverage industry in Malaysia. Thus, this study examines the impacts of social media on consumers' purchasing behaviour in Malaysian restaurants. Therefore, this study has incorporated recently proposed factors including E-WOM, social media and online community marketing, higher accessibility of information, and online ordering system, which stimulate the consumers' purchasing behaviour in Malaysia. This study utilised the critical review process of secondary sources to identify the determinants and measurements used in the surveying instrument. Purposive sampling was applied to select the restaurants, whereas the non-convenience random sampling technique was employed to collect data from 270 consumers over three months. Later, PLS-SEM was used to analyse the data. The results proved that the electronic word of mouth (E-WOM), social media advertisement and online ordering system significantly determined consumers' purchasing behaviour. However, highly accessible information via social media does not have a positive implication on consumers' purchasing behaviour. The study is contributing much to the food and beverage industry.

Keywords: Malaysia, Technology, Consumer Purchasing Behaviour, Restaurant Sector, Social Media, Digital Marketing.

JEL Classification: M37

1. INTRODUCTION

Creative minds and innovative technology predominantly consume the world. Marketers are continually strategising ways to convey their messages and convince consumers into buying their products and services. With the inception of the 21st century, specialists have anticipated that the internet would bridge the gap between consumers and marketing organisations (Hamel & Sampler, 1998; Sotelo, 2017). Researchers such as Ward et al. have anticipated that at the dawn of the 21st century, the internet and smart media would be the leading shopping platforms for consumers (1998). In a similar vein, De Kare-Silver

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(2000) asserted that innovation would ultimately run with the consumers to visit stores. As a result, it would be simple for individuals to buy their needs without setting off the original spots of the products.

Business organisations believe that electronic media can help promote their services and physical goods, which will eventually profit them. Weaver et al. (2017) and Porter (2001) posited that companies have to rely on technology to survive the business sector. The latest trends of marketing include digital marketing, which comprises of mobile - smart marketing, social networking sites, mobile applications, and mobile website (Horner & Swarbrooke, 2016). Subrahmanyam et al. (2008), in their research, claimed that people frequently communicate with each other on social networking sites and mobile applications. Additionally, Ostrow (2009) asserted that the use of social networking sites is increasing daily. On the other hand, Statista (2018) confirmed that Facebook has allegedly housed 207 billion accounts, whereas Twitter had 330 million followers by the end of the third quarter in 2017.

In the field of business, these social sites are essential to determine consumers' purchasing behaviour. Hence, Jones concluded that individuals use social media sites to convey their insights and purplish data on the brands they purchase and the administration they utilise (2010) Buyers use them to prescribe a brand or showcase associations with companions and supporters. Therefore, the relationship between technology and consumers' purchasing behaviour is today's top trending topics (Groß, 2015; Horner & Swarbrooke, 2016). D'Silva et al. (2011) asserted that this relationship could affect marketers as well as consumers. For example, marketers can build a personal connection with the consumers, whereas consumers will get daily updates on products or services. The internet, social media and mobile applications have adverse or positive impacts on the food and beverage industry and its consumers. Consumers believe that marketers focus on both the quality and quantity of advertising and its strength to attract consumers into the food and beverage industry.

Moreover, consumers are continually seeking information via word-of-mouth marketing or social networking sites that can supply them with pre-purchase suggestions before purchasing (Constantinides & Fountain, 2008; Mauri & Minazzi, 2013; Zhang et al., 2017). As for the restauranteurs, revolutionising the marketing strategy can make or break the brand entirely. Although there are benefits to digital marketing, risks are often involved, especially when the majority of the food and beverage suppliers try to transform uncertainty into an advantage for them (Mori et al., 2005).

Klang Valley is centred in Kuala Lumpur and connected to several cities and towns in the state of Selangor, Malaysia Klang Valley has a massive number of migrants from other states within Malaysia and foreign workers predominantly from Indonesia, India, and Nepal. The population in Klang Valley was 7.25 million in the fourth quarter of 2017 and is expected to increase to a total of 10 million by 2020 and 20 million in 2030 with an annual growth rate of 1.7% (Department of Statistics, 2017). The Malaysian Communications and Multimedia Commissions stated that there are 19.2 million internet users in Malaysia, and 15.6 million of them are active Facebook users. Therefore almost 64% of the national population has somewhat been ingrained in the world of social media (2014). There have been studies conducted on brand equity, brand loyalty, brand preferences, brand leadership and the customer experience in the restaurant industry within Malaysia and worldwide, Bolotaeva and Cata (2010), Safko (2012), Wollan, Smith, and Zhou (2010), Li and Shiu (2012), Mhlanga and Tichaawa (2017), Hanaysha (2016).

Nevertheless, the relationship or influence of technology, specifically social media advertising on Malaysians' purchasing behaviour has not been explored extensively. Several studies have focused on the influence of social media on customers' experience and purchasing behaviour in the restaurant sector. However, the international context of the previous research

might not be suitable for the Malaysian restaurant industry. Studies conducted by Safko (2012) and Wollan, Smith, and Zhou (2010) highlighted that the relationship between social media and customer experiences should be examined within the boundaries of cultural and geographical context. It should not be generalised to other countries. This is because the rate of social media network usage varies from one country to the other. Therefore, the type of social media network in a particular country influences the customers' experience and purchasing behaviour differently in comparison to other countries (Li & Shiu, 2012).

As mentioned earlier, almost 64% of the total population are active social media users in the study area. It is very substantial to have online reviews for the tourism industry on the primary website as well as on another type of platforms that require managerial attention for proper brand management (Saura, Palos-Sanchez & Reyes-Menendez, 2017). Nowadays, online review sites and social media websites have become an essential source of information for consumers and exert a strong influence on consumer purchase behaviour and decision making (Reyes-Menendez, Saura & Filipe, 2019). Therefore, the current research aims to understand the effects of technology on consumers' purchasing behaviour in the Malaysian restaurant industry. Also, it was essential to carry forward this research in Malaysian context to understand the impacts of social media on local consumers to follow the trend in the restaurant industry. We believe the proposed conceptual framework of current research is very identical and will contribute enormously and will help to improve to the supply side of the restaurants' industry. The upcoming sections of the paper will comprise of literature review with its proposed hypothesis, methods used for sample selection and data collection will be discussed. The next section will include data analysis and results that will be examined in detail. Finally, the paper ends with a discussion of research findings, an avenue for future research and concluding remarks.

2. LITERATURE REVIEW

2.1 Consumer Purchasing Behaviour Journey

Marketers have linked consumers' multiple purchasing approaches to the higher use of social media. To curb this issue, marketers have changed their strategies and introduced, E-WOM, a practical, accurately deliberate information transmitter, which can influence consumers' purchasing behaviour and determined to keep them satisfied (Court et al., 2009; Okumus & Bilgihan, 2014; Monica, John & Maria, 2017). Sheenan posited that consumers today prefer to scout around and familiarise themselves with the produces before purchasing them. (2010). Therefore, technology is the best mechanism to influence consumers' purchasing behaviour (Court et al., 2009).

The technology includes social media and e-commerce. Social media is an online market where a brand image connects the buyers and sellers. Vollmer & Precourt (2008) stated that social media should always be resourceful and proactively influence consumers' perception of choosing a brand. As such, social media marketing is a convenient and straightforward marketing tool, which helps providers to reach out to consumers during purchasing decisions (Sheenan, 2010). Awareness is necessary for the process of consumers' decision-making. It allows consumers to examine the gap between their desires and the type of information obtained (Reid & Bojanic, 2009; Lee et al., 2016). Besides that, consumers need to be familiar with the products and services to measure their purchasing behaviour. (Peppard & Butler, 1998). At present digital/ social media marketing is playing a critical role in consumer purchasing behaviour journey. Saura, Reyes-Menendez and Palos-Sanchez (2019) explored digital marketing strategies based on promotions for Black Friday 2018 in Spain. Research confirms that companies should generate exclusive promotions based on limited time

horizons and companies should avoid activities generate uncertainty and negative feelings in customers who, in turn, speak negatively of companies and share their negative experiences with the digital community by publishing negative content. Such negative feedback affects the digital reputation of companies and generates negative perceptions of their offers and discounts, thus reducing the profitability of its shares.

2.2 Electronic Word of Mouth (E-WOM)

Steve Jurvetson and Tim Draper introduced the term viral marketing in 1997 (Knight, 1999: 110-111) "Viral marketing can be understood as a communication and distribution concept that relies on customers to transmit digital products via electronic mail to other potential customers in their social sphere and to animate these contacts to also transmit the products". Pastore (2000) mentioned that it is the same as E-WOM, but Modzelewski (2000) disagreed and confirmed viral marketing is entirely different from E-WOM. Shirky (2000) then claimed that people would soon view viral marketing as E-WOM advertising. Additionally, he said that the concept would focus on attracting consumers via honest communication. Researchers also concluded that viral marketing connects with consumers, establishes consumer relationships, and influences consumers to buy the range of products (Helm, 2000; Vargo & Lusch, 2004; Leskovec et al., 2007; De Bruyn & Lilien, 2008; Court et al., 2009). eWOM is the most important source of information that drives consumer purchase behaviour in the hospitality and tourism services sectors. eWOM is personified message in online reviews that customers write for others. The words in online reviews could be negative or positive, depends on the experience that these specific customers have with purchased products or services (Reyes-Menendez, Saura & Filipe, 2019). Therefore, to gain a better understanding of the impact of eWOM on different social platforms and its effect on the decision making and behaviour of hotel consumers, reviews on online travel sites and social networking sites should be taken into account. Therefore, taking into consideration Shirky's views, this paper will view viral marketing as a natural form of communication between consumers. This paper will further look at the impacts of viral marketing on consumers' purchasing behaviour.

H1. E-WOM has a positive effect on consumers' purchasing behaviour in the restaurant sector.

2.3 Social Media and Online Community Marketing

Social media is an unconventional web-based application in the field of online marketing. (Yang et al., 2008). Companies employ social media to develop online communities and create new business designs that include novel product marketing channels (Chung & Buhalis, 2008; Ulusu, 2010). This will ultimately address problems with time and place limitations to mould strong relationships with consumers (Bolotaeva & Cata, 2010). Literature supports that social media is a powerful tool, which can be used by restaurants for marketing and publicity to reach out to a vast number of crowd and influence customers' experience and purchasing behaviour. Social media is necessary for effective marketing as it will induce a perceived favourable image, which results in perceived customer value (Hanaysha, 2016). However, Mhlanga and Tichaawa (2017) mentioned that the influence of social media on customers' experiences could be different based on their gender, age, food and beverage, service and atmosphere. New marketing channels create online communities that allow marketers to collect information about consumers, deduce consumers' needs and priorities based on their experiences of community usage and gain direct responses from consumers (Sigala, 2003).

Additionally, marketers can attain high levels of customisation by observing the contents posted by community members. It will help provide marketers with an understanding of consumers' needs. As a result, they will be able to develop ground-breaking products and services for consumers. It allows marketers to promote their start-up businesses to targeted consumers (Chung & Buhalis, 2008; Rezaei, Ali, Amin & Jayashree, 2016).

Online communities are suitable mediums for building a close-knit relationship with consumers. Zott et al. (2000) elaborated as the stickiness of a platform and its ability to appeal to consumers and retain them. Which is done by developing consumer value such as incentives for loyalty, customised products and services and trust (Zott et al., 2000). In general, social media marketing is a proactive platform that can connect with present consumers and draw new consumers. It is performing a substantial role in influencing consumers' purchasing behaviour (Sigala, 2003; Chung & Buhalis, 2008; Bolotaeva & Cata, 2010). Saura, Reyes-Menendez and Palos-Sanchez (2019) confirmed in their research that digital platforms has been confirmed routes to transfer the message from brands to their customers. Also, these digital platforms help suppliers to get the customers purchasing behaviour information which can results into improving the supplier - customer relationships.

H2. Advertising on social media has a positive effect on consumers' purchasing behaviour in the restaurant industry.

2.4 Higher Accessibility of Information

WOM has created an essential information transfer; however, the real impact of information obtained varies from one person to the other as a result of recipients' views and experiences (Liou, 2018). The internalisation phase of knowledge transfer is inclusive of information sharing and receiving. Therefore, explicit information was converted into internalised knowledge and meaning (Nonaka, 1994). Additionally, previous studies had focused on the quality of information and source credibility (Davy, 2006; Hong, 2006; Xu et al., 2006; Cheung & Lee, 2007). The quality of information is evaluated based on the accessibility of the data, its content, accuracy, format, and timeliness (Liu & Lopez, 2016). Social media consists of numerous online information-sharing platforms, such as social networking sites. Therefore, social media plays a vital role in creating an impact on consumers' purchasing behaviour in the field of marketing and advertising (Gilly et al., 1998; Mangold & Faulds, 2009; Varkaris & Neuhofer, 2017).

H3. High accessibility of information via social media has a positive implication on consumers' purchasing behaviour in the restaurant sector.

2.5 Traditional vs Digital Marketing

Online platforms nowadays are necessary to create and maintain a strong bond between marketers and consumers (Court et al., 2009). Internet usage and E-WOM have increased steadily, and therefore, consumers can seek online peer-advice via social networking sites. E-WOM will eventually promote marketing via multi-level information sharing to influence consumers' purchasing behaviour (Vargo & Lusch, 2004; Court et al., 2009; Fauser et al., 2011). With the development of modern technology, marketers have to switch their focus from a traditional marketing strategy to both conventional and digital marketing to attract consumers from various perspectives (Court et al., 2009; Okumus, 2013). It will then influence consumers to digress from the 4Ps (product, price, place, and promotion) of traditional marketing and head towards digital marketing, which emphasises on knowledge

acquisition, interactivity, connectivity, brand research and feedback review (Vargo & Lusch, 2004; Varkaris & Neuhofer, 2017).

2.6 Mobile Sites and Mobile Applications

The functions of a mobile-based online service are similar to computer-based online service. Nevertheless, mobile service stores' unique features that make it from computer-based service (Mozeik et al., 2009). The mobile technology is highly portable and has better coverage compared to desktops computers because it operates on wireless internet (Kim et al., 2007). Mobile technology is universal and therefore grants users internet access and the ability to interact with the system anytime and anywhere (Tojib & Tsarenko, 2012). Wang et al. (2015) maintained that mobile technologies in the 21st century could satiate users' impulsive and entertainment needs, help with making arrangements despite time-constraints and are more portable and efficient. By the year 2014, the number of mobile phone users in China was over 600 million, and this number is multiplying (China Mobile Application, 2015).

Moreover, data usage statistics state that more than 50% of the mobile data was spent on shopping, social media, and video websites. It is, therefore, evident that Chinese consumers' online activities have shifted from computer-based-platforms to mobile-based platforms. That being said, mobile apps have invaded the content of the mobile internet (China Mobile Application, 2015). Mobile apps with restaurant search utilise online-to-offline (O2O) business model (Liu & Xu, 2014). The O2O model helps business operators develop business opportunities via the internet by transforming offline services online (Du & Tang, 2014). Hence, the online ordering system is engineered to aid customers when they need to purchase or make transactions at their convenience during or off opening hours. The services provided by marketers give consumers the liberty to choose, buy or pay via the internet with specific apps on their mobile phones (Barutcu, 2007).

2.7 Online Ordering System

In the restaurant sector, the online ordering system is rapidly expanding among consumers and restaurants due to its visible benefits. Consumers order online because it is more comfortable, more convenient and fast (Kimes & Laque, 2011). As a result, restaurants will be able to increase profit and avoid errors. Besides that, online ordering has helped improved management capacity, boost productivity, develop transactional marketing and customer relationship management (Kimes & Laque, 2011; Kimes, 2011). Nevertheless, restaurants do face issues with a rise in cost, decline in service quality, and plausible commoditisation. Studies revealed that the ordering process should be accurate, convenient and clear-cut. In the absence of the internet or mobile app, consumers chose to make a call to order online (Park & Kim, 2003; Flanagin et al., 2014; Metzger & Flanagin, 2015).

H4. The availability of the online ordering system has a positive effect on consumers' purchasing behaviour in the restaurant sector.

Figure 1. Research Framework
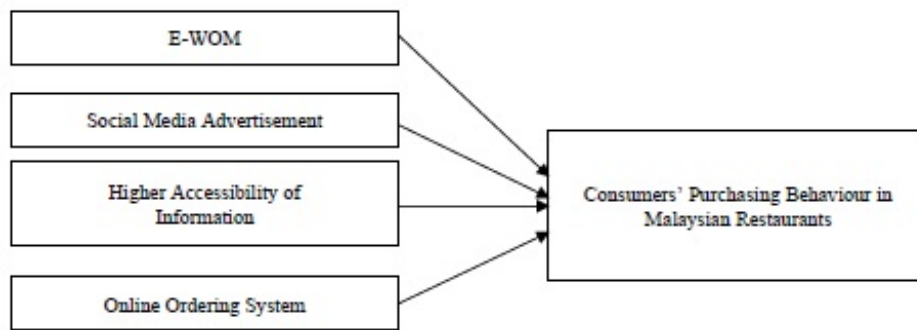
Source: Own Elaboration

3. METHODOLOGY

The quantitative research method was adopted to test the hypothesis. As such, a comprehensive questionnaire made up of three sections was used to examine information such as E-WOM, social media advertisement, higher accessibility of information, online ordering system and consumer purchasing behaviour. Part one of the questionnaire consisted of screening questions that were designed to ensure respondents had the experience of using social media to check out restaurant menus and advertisements. Moreover, the items also measured the amount of time spent by consumers on social media daily. Therefore, the participants in this study were experienced consumers who frequently used social media to survey restaurants virtually before visiting them. Section two captured participants' demographic data such as gender, age, monthly income, education, and nationality. The final section of the questionnaire was created to determine consumers' views on the primary constructs of the study. Thirty-three items were measured via a Five-point Likert scale ranging from strongly disagree (1) to strongly agree (5).

Additionally, the consumers' purchase behaviour (four items) was adopted from four independent variables and E-WOM (five items) was adopted from Word-of-mouth Marketing Association (2008). Besides that, fourteen items regarding social media advertisements were extracted from Lee (2013); Madni (2013) and the higher accessibility of information (seven items) were adopted from Rein et al. (2005). Finally, three items about the online ordering system were selected based on Kimes and Laque (2011); Kimes (2011).

Next, the purposive sampling technique was used to approach five different fast-casual dining restaurants or cafes in Klang Valley, Malaysia. They were Humble Beginnings Café, Wondermilk, Epiphany Coffee & Tabacco, Mukha Café and JC's Pancakes. Three hundred questionnaires were distributed to consumers who had visited the restaurants between March and April 2019 via the non-probability convenience sampling technique. With a response rate of 90%, 270 were returned, completed and found to be useful.

4. DATA ANALYSIS

4.1 Demographic Breakdown of the Respondents

The majority of the participants were male (56.3%) in the current study. About 27.4% of the respondents were between 26 and 30 years old, whereas 24.1% of them were between 20 and 25 years old. Table 1 exhibits the monthly income of the participants. A total of 60.4% of the participants obtained RM3001 to RM4000 per month. On the other hand, 23% of them received a salary between RM4001 and RM5000. Besides that, 44.1% had graduated

with a diploma, 31.5% with a degree and only 13.3% with postgraduate degrees. Survey questionnaires were distributed among the permanent residents or those who have resided in Malaysia for more than six months. Further, the result found out that there were 75.2% of them were Malaysians, followed by Koreans (8.5%), Chinese (7.8%), Taiwanese (5.9%) and Singaporeans (2.6%).

Table 1. Demographics of the Participants (n= 270)

	Frequency (F)	Percentage (%)
Gender		
Male	152	56.3
Female	118	43.7
Age		
20 - 25	65	24.1
26 - 30	74	27.4
31 – 35	31	11.5
36 – 40	52	19.3
41 and above	48	17.8
Monthly Income (RM)		
Less than 3,000	18	6.7
3,001- 4,000	163	60.4
4,001- 5,000	62	23.0
5,001 or above	27	10.0
Education		
Diploma	119	44.1
Undergraduate (Degree)	85	31.5
Postgraduate (Masters/ PhD)	36	13.3
Others	30	11.1
Nationality		
Malaysia	203	75.2
China	21	7.8
Singapore	7	2.6
Taiwan	16	5.9
Korea	23	8.5

Source: Output from SPSS

4.2 Technology and Time Spent

A total of 94.8% of the participants used social media to review the restaurants' menu items, and almost 69% of them agreed that social media invoked them to visit those restaurants. Based on the survey, 59% of the participants said that the advertisements on mass media were uninspiring due to the invasion of technology in their daily lives. As such, Facebook was one of the most used platforms by the majority of the participants (72.6%) daily. Additionally, most of them (81.1%) spent about 10 hours or more on social media per week.

Table 2. General Questions about Technology and Time Spent

	Frequency (F)	Percentage (%)
Do you use social media to review the restaurant's menu items?		
Yes	256	94.8
No	14	5.2
Does social media trigger you to visit a particular restaurant?		
Yes	187	69.3
No	83	30.7
Do you find advertisements on mass media are still attractive?		
Yes	111	41.1
No	159	58.9
Which of the following social media sites are you using daily?		
Social Networking Sites (e.g. Facebook)	196	72.6
Microblogging (e.g. Twitter)	15	5.6
Blogs/ Forums	23	8.5
Social Bookmarking Sites/ Social News (e.g. Reddit, Digg)	20	7.4
Photo & Video Sharing Sites (e.g. Flickr, Youtube)	16	5.9
Time (approx.) spent on social media sites per week		
0 hour	0	0.0
1-3 hours	6	2.2
4-6 hours	3	1.1
7-9 hours	42	15.6
10 hours or more	219	81.1

Source: Output from SPSS

4.3 Descriptive Analysis

Results of current research revealed that the participants had high perceptions (Mean ≥ 4.0) for buzz marketing, which employs entertainment or news to develop WOM. Additionally, they were also into community marketing, where a circle of people supports user groups, fan clubs, and discussion forums. Finally, the participants had strong impressions of referral programmes too. These programmes provided satisfied consumers with a platform to spread the word via a wide range of instruments. All in all, the mediums above had vastly influenced consumers' purchasing behaviour. Moreover, consumers were able to seek products and services' information via social media. Additionally, consumers' initial preferences changed after browsing for pertinent details. Most likely, their attitude and perception towards a restaurant would have changed after reading the positive reviews and articles online. Social media has evidently, paved the way for new products, services, and brands to lure customers, in comparison to mass media advertisements, reviews and blog posts. Therefore, social media is proved to be a more credible space for marketing compared to mass media. With the expansion of social media, consumers can get specific information on an extensive menu, especially food (halal or diet-specific) and beverages offered at a restaurant. Furthermore, the feedback from previous customers, such as reviews, ratings, and comments on social media would influence first-timers' purchasing behaviour. Additionally, social media substantially brings together groups of consumers and encourages them to communicate with each other, and with the restaurants about availability, reservation and the ordering system.

Nevertheless, participants had average perceptions (Mean ≥ 3.0) when it comes to the impact of technology on consumers' purchasing behaviour, and their prejudgement of products or services before use. In comparison to the mass media, the consumers had moderate responses with regards to information accessibility, the sharing of information (WOM), and peer-reviews on social media. Moreover, social media can help consumers locate restaurants, promotions, and advertisements that they find appealing. As such, social media and E-WOM had influenced consumers' purchasing behaviour and decision-making abilities. Thirdly, participants exhibited low perceptions (Mean < 3.0) towards a series of items such as the ability to seek consistent information, that gelled with their first-hand purchasing preferences. Besides that, consumers also developed low perceptions against social media's influence to try new restaurants and information regarding the ingredients and cooking process. Low views were also recorded when participants were asked about the usefulness of social media and whether it causes difficulties in the process of decision-making. Besides that, restaurants that used technology provided consumers with a novel dining experience.

4.4 Measurement Model

The measurement model employed in the present study had initially examined the standardised construct loadings, which resulted above the recommended value of 0.60 (Chin et al., 2008). The degree of each construct's indicator to its latent construct proved that the reliability of the construct was above 0.708. On the other hand, the extracted average variance or the overall extent of variation, which was observed among the indicators and were accounted for the latent construct were above 0.50. It was above the critical limit which signalled the reliability and validity of the measurement model (Table 3). The next stage was to assess the validity of the discriminant, in which the extent of one variable is not the reflection of other variables, which was indicated by the low correlation between the constructs. Table 4 demonstrates Heterotrait-Monotrait Ratio's (HTMT) criteria due to recent criticism on Alarcón, Sánchez and De Olavide's (2015) criterion because they did not reliably detect discriminant validity compared to the HTMT ratio (Henseler et al., 2016). The results further indicate that the obtained values are above the critical limit of HTMT 0.85 and below than an HTMT of 0.90. Hence, the HTMT ratio values are between 0.85 and 0.90.

Table 3. Indicator Validity and Reliability

Items	Loadings
E-WOM (AVE = 0.561; Composite Reliability = 0.879)	
Buzz marketing (Using entertainment or news to create WOM) influences consumer purchase decision.	0.814
Viral marketing (messages designed to be passed along, often electronically or by email) influences consumer purchase decision.	0.780
Community marketing (forming or supporting such communities as user groups, fan clubs, and discussion forums) influences consumer purchase decision.	0.735
Conversation Creation (things such as emails, promotions, entertainment or anything that is designed to create WOM) influences consumer purchase decision.	0.627
Referral Programs (giving satisfied customers the change to spread the word with different tools) influences consumer purchase decision.	0.796
Higher Accessibility of Information (AVE = 0.572; Composite Reliability = 0.867)	
Do you think that with the social media sites, you are able to seek out products/services information initiatively (actively)?	0.710
Do you have prejudgement (positive/negative) towards a particular product and/or service before an actual consumption?	0.684

Do you tend to seek out information that is consistent with your initial opinion/preference for a purchase?	0.698
Do you agree that information searching is easier via social media compared to mass media (e.g. TV, radio, newspaper, and so on)?	0.819
Do you change your initial preference after searching relevant information via social media sites?	0.712
Are you likely to change your attitude towards a certain restaurant after you have read positive comments/reviews/online articles etc. about it?	0.679
Are you likely to share comments/reviews/blog posts/related articles etc. to peers or friends via social media after a visit to the restaurant?	0.718
Social Media Advertisement (AVE = 0.669; Composite Reliability = 0.863)	
Do you search for related information on social media before a purchase?	0.659
Do you agree that, for instance, advertisements/blog posts/ FB pages/user reviews on social media influence you to try new brands/products/services?	0.712
Do you agree that social media has provided more effective platforms for new products/services/brands to draw consumers' attention than mass media channels?	0.665
Do you agree that advertisements/ reviews/ blog posts etc. have higher credibility than advertisements/ editorials/ other marketing means on mass media?	0.661
Do you rely on information available on social media if you have uncertainties regarding a purchase?	0.743
It is easy to access the restaurant interactive menu through social media.	0.856
The information (e.g. ingredients, cooking process, etc.) through social media is very useful.	0.673
The visual appearance of an interactive menu in social media is attractive.	0.612
The social media make it easier to check menu variety (e.g. healthy menu, halal menu, etc.) offered in the restaurant.	0.714
The beverage (e.g. hot drinks, cocktails, mocktails, etc.) feature in the social media is very useful.	0.801
The social media interactive menu attracts me to try the restaurant.	0.631
Do you agree that feedbacks (reviews/comments/posts and so on) on social media affect your purchase?	0.652
Do you agree that social media provides an effective and powerful platform for consumers to communicate with each other and with the companies?	0.784
Do you think that social media makes your decision making more complex?	0.659
Online Ordering System (AVE = 0.576; Composite Reliability = 0.897)	
Social media help me to order online.	0.775
The restaurant online system helps me to locate the restaurant.	0.766
The social media helps to check the reservation availability for online booking.	0.753
Consumer Purchasing Behaviour (AVE = 0.623; Composite Reliability = 0.867)	
The interactive promotion of the restaurant through the social media influences consumer purchase decision.	0.853
Food promotion reminder through the social media influence consumer purchase decision.	0.603
Advertising appeal of restaurant promotions through the technology influence consumer purchase decision.	0.784
Restaurant using technology gives a new dining experience to consumer.	0.645

Note: Critical Values: AVE = 0.50; Indicator Loadings = 0.60

Source: Output from PLS - SEM

Table 4. Discriminant Validity

Heterotrait-Monotrait Ratio (HTMT)					
E-WOM					
H_AI	0.864				
SMA	0.899	0.869			
OOS	0.853	0.887	0.903		
CPB	0.868	0.899	0.878	0.866	

**Values on the diagonal (bolded) are square root of AVE while the off-diagonals are correlations.
The shaded boxes is the standard procedure for reporting HTMT ratio.
E-WOM - electronic word-of-mouth; H_AI - Higher Accessibility of Information; SMA – Social Media Advertising; OOS - Online Ordering System; CPB - Consumer Purchasing Behaviour.

Source: Output from PLS - SEM

4.5 Structural Model

A bootstrapping procedure with 4999 iterations and 270 cases were used to examine the importance of the path coefficient values (Chin et al., 2008; Hair et al., 2017) of the structural model and its tested hypotheses. Moreover, critical limits of *t*-value statistics, (Hair et al., 2017) 1.96 (5% of significance level) and 2.57 (1% of significance level) were used to measure the path-coefficient values. According to the recommendation of Henseler et al. (2016), the standardised root mean square residual (SRMR) value was applied to the model fit's criterion. The recommended value of 0.08 or less would be sufficient for the PLS path analysis model. As for the present study, an SRMR = 0.058 was noticed. The value signified acceptance of the model fit.

Figure 2. Results of the Assessment of the Structural Model
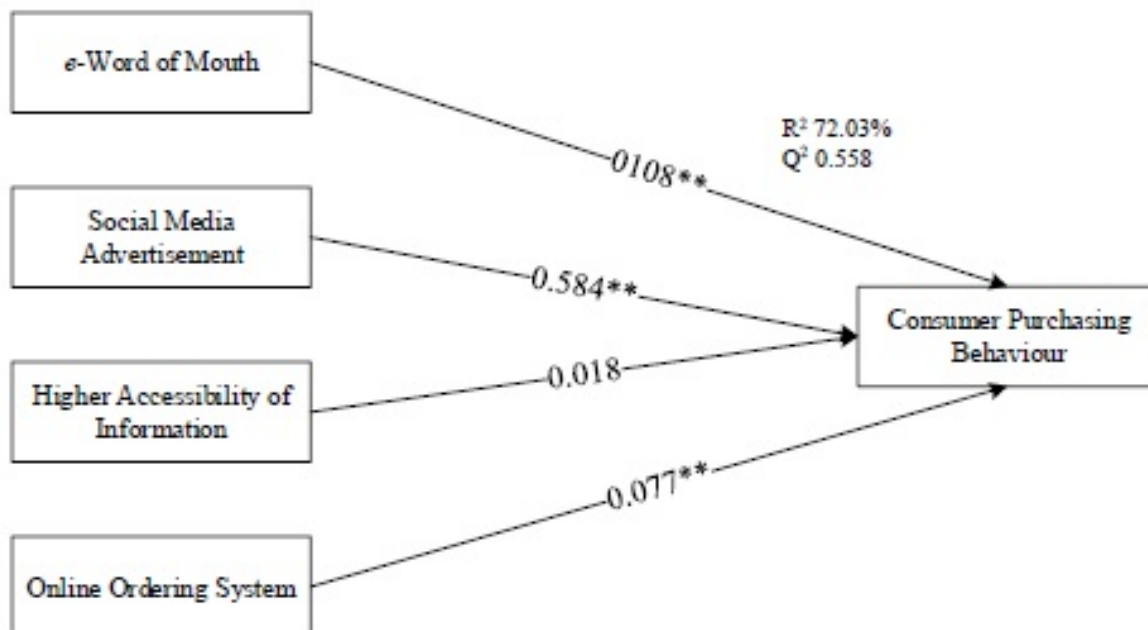
Source: Elaboration form PLS - SEM

Table 5. Path Coefficients

Hypotheses	*beta*	*t*-values	Decision	*f*-Square
Direct Effects (bootstrapping results)				
H1: *e*-WOM → Consumer Purchasing Behaviour	0.108	2.720**	Supported	0.555
H2: Social Media Advertising → Consumer Purchasing Behaviour	0.584	3.248**	Supported	0.820
H3: Higher Accessibility of Information → Consumer Purchasing Behaviour	0.018	0.266	Rejected	0.107
H4: Online Ordering System → Consumer Purchasing Behaviour	0.077	3.937**	Supported	0.799

Notes: Critical t-values. *1.96 ($p < 0.05$); **2.57 ($p < 0.01$).

Source: Own Elaboration

Table 5 shows the structural model path coefficient values of *f*-square denoting each construct's side effect. Consumer Purchasing Behaviour was the dependent variable. E-WOM, Higher Accessibility of Information, Social Media Advertisement and Online Ordering System were the independent variables. The path-coefficient b-values were used to test the hypotheses, whereas t-values confirmed the significance level of the proposed hypotheses. There were zero auto-correlation since the Durbin-Watson value was 1.94, and the variance inflations factor was below 3. This proved an absence of multicollinearity problems. Additionally, the 'Higher Accessibility of Information ($\beta=0.018$)' did not have a positive effect on 'Consumer Purchasing Behaviour' in the restaurant sector. As a result, the proposed H3 hypotheses were rejected. However, the 'E-WOM ($\beta=0.108$)', 'Social Media Advertisement ($\beta=0.584$)' and 'Online Ordering System ($\beta=0.007$)' had positive effects on 'Consumer Purchasing Behaviour and therefore hypotheses H1, H2 and H4 were accepted. Moreover, all the independent variables jointly signalled a variance value (R^2) of 72% for the 'Consumer Purchasing Behaviour'. It is an acceptable value. Henseler et al. (2016) reckoned the application of standardised root mean square (SRMR) as the appropriate model fit criterion. The suggested value of SRMR is 0.08 or less for a good model fit. Hence the current structural model has achieved SRMR = 0.0608, signifying an acceptable model fit.

5. DISCUSSION

Significant works of literature have examined consumers' purchasing behaviour in the restaurant sector worldwide. Nonetheless, limitations rose when it came to the understanding of the e-consumers' purchasing behaviour in Malaysian restaurants. Therefore, this paper has attempted to fill the gaps via an analysis based on the developed conceptual model. Additionally, antecedents such as the E-Word of Mouth, Social Media advertisement, Higher accessibility of information and Online ordering system were used to measure consumers' purchasing behaviour in the Malaysian restaurant sector.

Consumers continuously interacted via multiple objects that were related to their surrounding environment. According to the findings, social media advertisements had greatly influenced (58.4%) consumers' purchasing behaviour. Similar studies have recorded the positive impact of social media advertisements too. (Al-Dhuhli, Mukhanini & Ismael, 2013; Rasool, 2015). There had been a noticeable shift in consumers' purchasing behaviour as a result of an upsurge in social media's efficiency. Lee (2013) asserted that it is difficult to generalise due to the differences in demographic factors. However, the current study showed that the majority of Malaysians were Millennials. About 24.1% were under the age group of 20-25years and 27.4% between 26 and 30years of age compared to Gen X and Y.

The present study also coincides with Mhlanga and Tichaawa's claims that the influence of social media on customers' experiences and purchasing behaviour could be different because of their gender and age group. Therefore, these results suggested that the segmentation of millennials would be more successful in satisfying e-consumers' purchasing behaviour on social media in the field of Malaysian restaurants. Consequently, Yasin and David assert that consumers' method of interaction had been changing simultaneously with the advancement of technology. Some methods have, therefore disrupted the diverse availability of information sources because of their high-quality content and presentation (Yasin & David, 2014).

Furthermore, a wide variety of prices ultimately confuses the consumers' access to information on the information cloud. Sensing the global trends of competition, E-WOM has also been considered as one of the major influential factors among consumers' purchasing behaviour. Due to the rapid technological advancement and the multiple platforms in social media, potential consumers can easily be targeted with their initial knowledge about the brand and the product (Tran, 2014). E-WOM messages have received plaudits from previous users and have had shown positive repercussions on consumers' purchasing behaviour during the decision-making process (Dudovskiy, 2013). This is because the Malaysian restaurant industry attracts tourists locally and globally as such social media plays a pivotal role in uplifting these restaurants. After all, social media reviews and recommendations very much influence tourists before purchasing. The findings of this paper support Court et al. (2009) and Sheenan's (2010) assertations, that modern consumers are often influenced by technology when it comes to searching for information before making purchase decisions.

Additionally, consumers build trust in E-MOW via reviews and recommendations shared by friends and renowned people on social media. Moreover, the rapid expansion of the internet and the programmatic enhancements of marketed products by the restaurants had modified the way consumers receive information and exhibit an increase in numbers quickly. Because consumers expect highly informative and accessible information, business marketers are placing more efforts on technology-based intuitive information, rather than conventional processing information.

This study also highlighted the impact of social media's high accessibility rate on consumers' purchasing behaviour in Malaysian restaurants. These findings oppose the conclusions made by previous studies (Gilly et al., 1998; Mangold & Faulds, 2009; Varkaris & Neuhofer, 2017). Such a contrasting difference may be a result of the customers' culture and ethnicity, levels of trust, previous dining experiences or other experiences based on social media information. Some customers might have realised that the images of the restaurant atmosphere and the appearance of the menu items posted on social media differed from their actual dining-in experience. Besides that, there would also be counterfeit promotion information shared on social media.

6. CONCLUSION

The present study concluded that it is essential to adopt a technological platform in the field of hospitality to attract consumers and further create an impact on their purchasing behaviour. Due to the recent development of Information and Communication Technology, consumers are ready to accept the technological advancement and integration of modern technological innovations in the restaurant industry to race against a busy competitive world. Although new sets of factors may arise and will be adopted by consumers in the future, the internet will always be the pilot of their daily lives. The findings on managerial contributions revealed that a significant number of Malaysians are often influenced to visit restaurants that have social networking sites such as Facebook. Therefore, in comparison to

mass media, social networking sites are more useful for new products, services or brands to draw consumers' Moreover, the current study also revealed that social networking sites have higher credibility compared to advertisements and other marketing means on mass media.

Additionally, consumers take into consideration recommendations of friends (E-WOM) before visiting a particular restaurant or purchasing an order online Besides that, restaurants that use multiple channels for marketing lead to confusion because of un-updated information or complete absence of information. It will eventually lead to flip-flopping opinions when it comes to choosing a particular restaurant. It cannot be denied that consumers also pay heed to the views of others without actually visiting the promotional channels used by restaurants. So, the marketing strategies designed by restaurants should cater to consumers from all walks of life. Restaurants should also highlight a product's unique features and revamp the online ordering environment to increase consumers' purchasing intentions.

Therefore, the topics identified and proposed conceptual model in current research makes a significant theoretical contribution in the research filed. The model will be very useful for academic scholars, restauranteurs, policymakers, and practitioners. In conclusion, this paper has explored the conceptual development of e-consumers' purchasing behaviour and decision-making in the context of Malaysian restaurants. The analysis proved that e-marketing is still growing fast compared to traditional marketing. This paper also shows a better understanding of e-consumers purchasing behaviours in the Malaysian context.

Although the results of the current study had shed light on several important issues, some limitations need to be considered for future research. Firstly, the data was collected from five restaurants only and were tested based on the convenience sampling method, which may have produced generalised results. Additionally, this study mainly focused on four dimensions such as E-WOM, higher accessibility of information, social media marketing, and online ordering system to analyse consumers' purchasing behaviour. Nonetheless, there are other critical dimensions that the present study had disregarded, for example, pricing, location and service quality. Moreover, the present research merely focused on consumers' point of view. Future research may examine these factors from restauranteurs' point of view to gain a better understanding of the suppliers' perspective in Malaysian restaurants. Lastly, future research may want to include emotional factors such as personal touch, perceived excitement and enjoyment to look after consumers' purchasing behaviour in the restaurant industry.

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THE USE OF DIGITAL MARKETING STRATEGIES IN THE SHARING ECONOMY: A LITERATURE REVIEW

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ABSTRACT

In recent years, the emergence of new digital platforms of sharing economy has given rise to considerable changes in consumer behavior. These new ways of consumption in online environment have to be driven by specific digital strategies adapted to sharing economy. This Systematic Literature Review aims to cover an existing gap in the literature and to organize the main digital marketing strategies, techniques, or tactics that can be implemented on these platforms in accordance with the objectives and core values of this business model. First, we outline a framework of the sharing economy, including a discussion of the definition of the concept of SE, objectives, importance, and implications for consumer behavior. Then, a methodology of the literature review is developed based on previous literature on the two key terms—"sharing economy" and "digital marketing"—retrieved from databases such as Web of Science and Scopus. The interpretation and analysis of the results allow for the identification of the main digital marketing strategies and techniques to apply on collaborative platforms. Finally, the conclusion outlines the importance of digital marketing in the online environment, as well as of enhancing the user-generated content and e-word-of-mouth on these platforms.

Keywords: Sharing Economy, Digital Marketing Strategies, UGC, e-WoM, User Experience, Peers-to-Peers Collaboration.

JEL Classification: M13, M30

1. INTRODUCTION

Recent advances in new technologies—particularly, information and communication technologies (ICTs)—have caused important changes in the social and economic fields (Pouri & Hilty, 2018). New business models as Sharing Economy (SE) or new funding methods in managerial project as Crowdfunding has given rise due to ICTs, both of them has emerged as alternatives to solve existing problems (Reyes-Menendez et al., 2018).

SE, alternatively referred to as consumer-to-consumer (C2C), peer-to-peer (P2P) or collaborative economy (Chappelow, 2020), is mainly characterized by facilitating the exchange of goods and services among users by promoting social and sustainable consumption. This is achieved through the interaction between users who freely share their opinions, recommendations, and experiences online.

While the term "collaborative economy" is used in this study, in should be noted that, since the end of this decade, there has been a debate about the terminology used to refer to the corresponding phenomenon. Alternative terms used to refer to collaborative economy

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include circular economy, in reference to recycling, or orange economy, with cultural and creative industries.

The digital era is characterized extensive use of new technologies and permanent connectivity through the Internet, all of which have led to significant changes in consumer behavior (Labrecque et al., 2013). Due to the accessibility infinite sources of information, users are increasingly well-informed. According to Reyes-Menedez et al. (2020), users today seek out for themselves what they want to know, create content, also known as user-generated content (UGC), and share it altruistically on social media, thereby encouraging interaction and collaboration between anonymous users. Another concept that is of vital importance to digital marketers is the electronic word-of-mouth (e-WoM) (Saura et al., 2019). These new tendencies highlight the need to adapt traditional marketing communication strategies to a digital environment, as correct implementation of digital marketing (DM) strategies implies great benefits to e-business (Saura et al., 2017).

The originality of this study contributes to provide valuable knowledge about what are the main DM strategies are implemented in SE businesses. Furthermore, there is not previous studies founded in which these strategies were organized clearly. Therefore, the research objective focuses on the review of main strategies, techniques, or tactics of DM applied by collaborative economy business models according to their objectives; we also review the challenges associated with implementation of such strategies. To this end, the present study undertakes a Systematic Literature Review (SLR).

The remainder of this paper in structured as follows. Section 2 contextualizes and defines the term "sharing economy", as well as discusses the relevance and impact of sharing economy on the society, in general, and on consumer behavior, in particular. The importance of DM strategies in digital ecosystems is also introduced giving room to the development of the research questions. Furthermore, Section 3 presents and explains the methodology of SLR. The results of the analysis of previous studies retrieved from databases, as well as the main DM strategies and techniques that can be applied in this type of business, are presented in Section 4. Finally, Section 5 provides answers to the research questions addressed in this study and draws conclusions.

2. FRAMEWORK

2.1 Sharing or Collaborative Economy

The SE is a business model that emerged in the late 1990s and became a sustainable way of doing business in the 21st century (Máynez & Gutiérrez, 2016). According to Rodríguez et al. (2017), the main drivers of the collaborative economy are (1) the Internet and digital culture; (2) changes in society and culture; (3) economic crises; and (4) environmental problems.

SE appears where there is a legal framework that allows it. This typically occurs either due to the absence of regulation, as in Anglo-Saxon systems, or by specific *ad-hoc* regulation. Wherever the legal framework is not clear, a social debate usually arises; accordingly, incidents—such as those related to Uber, applications of food distribution, tourist rooms, and so forth—can occur. In the United States and Europe, the level of competence is usually delegated to the public administrations closest to the citizens.

Collaborative economy businesses are platforms developed entirely in a digital environment. Such businesses are based on the exchange of goods and services among users and on promoting a more sustainable lifestyle. These platforms have given rise to new forms of interaction between consumers who share, exchange, or rent second-hand products.

These activities have had a great impact on consumer behavior in digital media (Máynez & Gutiérrez, 2016).

The SE model has been implemented in different industries—particularly, those related to transportation and hospitality (e.g., Uber or Airnbn); however, SE businesses have also been launched in the domains of consumer goods (i.e. Wallapop or Cash Converters) and media and entertainment (i.e. Spotify or SoundCloud). Each of these sectors implements this collaborative economic model, adjusting to their commercial activity and their relationship with consumers, as well employs the DM strategies that allow them to attract users, encouraging their participation and consumption.

The SE is based on the following four key pillars (Series, 2015):

1. *Digital platforms that connect spare capacity and demand:* These platforms provide the connectivity and interaction between supply and demand in real time without spatial limits.
2. *Transactions that offer access over ownership*: Consumers tend to avoid owning property and prefer to share or rent it. Transactions in collaborative economy models can take the form of renting, lending, subscribing, reselling, swapping, or donating.
3. *More collaborative forms of consumption:* Consumers feel more comfortable conducting transactions with more social interaction than in the traditional forms of exchange.
4. *Branded experiences that drive emotional connection:* User experience with digital platforms is essential to connecting emotionally with them. DM plays an important role here. Strategies must be oriented towards generating experiences that lead to a more loyal and faithful relationship between the consumer and the company.

2.2 Customer Behavior in Sharing Economy Platforms

As SE business models emerge as essentially digital platforms, it is important to understand consumption habits and motivations of users in this environment.

The connectivity allowed by the Internet provides consumers the access to a wealth of information that can guide their purchasing decisions. Accordingly, users become more dependent on the opinions of other users generated through e-WoM and UGC in social networks. Martínez-Cortiña (2016) highlighted the following five characteristics of a collaborative economy: (1) *peace of mind*; no uncertainty; (2) *freedom* to choose various options in the face of single markets; (3) *simplicity*, i.e. ease of use and understanding; (4) *transparency*, i.e. absence of hidden flaws; (5) *community* where users interact among equals "peer to peer", which strengthens the bonds of belonging to the same community.

Communication and interaction between peers is one of the main reasons why younger consumers are particularly active in the new digital environments. Younger consumers tend to create communities with similar interests and tastes, which enhances collaboration and exchange of goods and services among this cohort. However, other groups of population are more apprehensive about using digital platforms, as they are afraid of interacting with strangers or feel insecure while communicating via digital platforms. The ease of use and immediacy of transactions is another important incentive in this domain. More and more people are looking for platforms that are easy, intuitive, and customized to the tastes and interests of consumers—and all these characteristics are essential for the development of a good consumer experience.

User's participation in SE is fundamental to be operational. Its participation could take place in several forms being the users themselves the ones who sell, lend or share its goods or services, or creating a conversation with other (e.g. making reviews) which encourage them their trust for using this type of digital platforms. Then, users are part of companies' performance, users no longer have a passive attitude; instead, they now collaborate and get involved.

On the other hand, they become more demanding and seek higher quality and better service in the offer. This makes obtaining their loyalty a more complicated task for digital marketers. Therefore, the importance of implementing effective DM strategies should not be underestimated.

Social trends towards living a more sustainable lifestyle and the growing concern for the environment are further important characteristics of consumers in the collaborative economy businesses. However, according to Hamari et al. (2016), there can be discrepancies between consumers' attitudes and actual behavior.

On the other hand, the money saved by consumption on these platforms is another important driver of users' participation.

In this sense, the main objective of the present study is to bridge the existing gap in the literature with an extensive survey of available strategies, techniques, or tactics of DM that can be applied in a collaborative economy. The results are interpreted in an exploratory way, leaving room for future research to empirically confirm their effectiveness.

In order to the development of the research questions, firstly, it is taken into account the benefits of the implementation of DM strategies in e-businesses. Since, some of these DM strategies are more commonly used than others and some of them are more effective depending on the business model. Therefore, the RQ1 answers the following issue: *What are the main digital marketing strategies that can be applied to sharing economy platforms?*

Secondly, considering that user participation is essential in the SE, it is interesting to go further and analyze how digital marketing can be implemented to boost user's participation. Then, RQ2 is address as follows: *How can digital marketing help the sharing economy to increase and encourage user participation?*

3. METHODOLOGY DEVELOPMENT

In order to address the research questions formulated in this paper, we use the methodology of a Systematic Literature Review (SLR). The goal of SLRs is to identify and synthesize previous research findings (Snyder, 2019). This methodology allows one to obtain a comprehensive understanding of a specific topic, as well as acquire the essential concepts and implications. It is important to highlight the potential contributions of SLR for both academia and industry.

Any methodology requires some previous data for its analysis and interpretation. In the case of a SLR, the process consists of the collection of articles and their subsequent evaluation through a qualitative approach. In the present study, the development of the methodology was guided by the systematic sequential process proposed by Brocke et al. (2015). Similarly, to facilitate the preparation of the SLR, PRISMA Statement was used (Moher et al., 2015).

In the present study, the research methodology was developed using the following two major international academic databases: Web of Science and Scopus (Chadegani et al., 2013). These databases were searched using relevant key terms (see Table 1).

Table 1. Terms used in the databases

Database	Terms used			Filtered by	Fields
Web of Science	share economy	AND	digital marketing	Articles	Title
Scopus	OR collaborative economy		OR online marketing	Open Access	Abstract
			Or internet marketing	English	Keywords

Source: Own Elaboration

The process unfolded as follows. First, relevant words related to SE and DM were identified. Next, a total of three queries were carried out in each of the databases, keeping the terms "share economy" OR "collaborative economy" fixed and alternating three other key terms related to marketing strategies in an online environment ("digital marketing", "online marketing", "internet marketing") were used alternatively. The search for similar terms allowed us to expand the results. In addition, it was specified that these terms had to appear in the title, abstract or keywords. For a more precise search, we filtered by type of document to focus only on open access articles written in English (see Table 1).

After obtaining a total of 81 articles, we proceeded to follow the PRISMA methodology to identify the significant articles in accordance with the objectives of our review (see Figure 1).

Figure 1. PRISMA Flow diagram of SLR
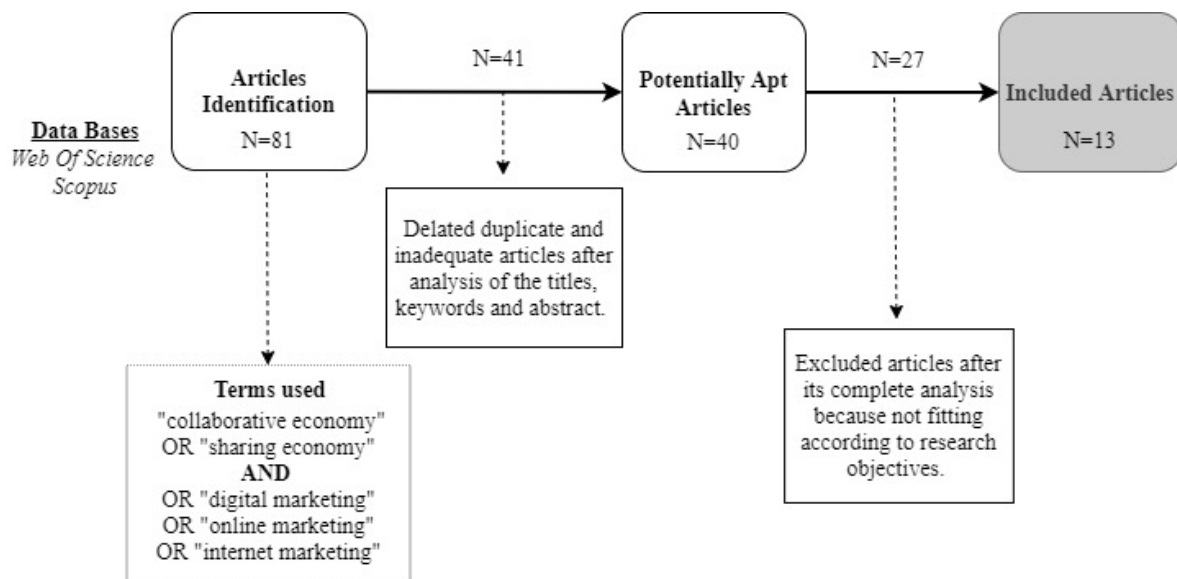
Source: diagram.net

First, it we eliminated duplicate results, as well as the results where the terms used in the titles, abstracts, and keywords did not match our research purpose. As a result of this filtering, a total of 40 articles remained in the dataset. Second, a more detailed review was carried out, with a particular focus on the application of digital marketing strategies in sharing economy models, conclusions, and implications. As a result of this three-stage filtering process, our dataset was reduced to a total of 13 articles.

4. RESULTS

The collaborative economy businesses are digital platforms where DM strategies are applied. In this section, we outline major DM strategies used in this business model, discuss how they are being applied, as well as present the effects they (can) cause on their users. In addition, we will also define several other significant concepts.

The analysis of the selected articles (N=13) demonstrated that these digital platforms obtain good results when they ground their DM strategies in user experience (UX) (Salvi & Fabiana, 2019). The related UX strategies should be designed in order to facilitate self-storytelling among users in online ecosystems (Pera et al., 2016). In this way, consumers can share their opinions and show their satisfaction or dissatisfaction with the activities of SE businesses. This behavior is popularly known as electronic e-WoM. It is considered one

of the main factors affecting consumer loyalty and companies' brand reputation in digital ecosystems (Salvi & Fabiana, 2019).

Lalicic and Weismayer (2018) confirmed the relationship between service quality (SQ) and consumers' loyalty. However, this study was focused on an offline environment.

Innovative business models, such as collaborative economy, based their strategies on encouraging engagement among users and between users and companies (Pisano et al., 2015). Accordingly, social media marketing strategies (SMM) are widely used by such businesses. Social networks are an important communication channel for e-businesses, as it allows them to obtain greater visibility and encourages closer and more informal interactions with consumers.

In order to interact with their followers and create content, collaborative economy businesses create profiles in major social networks such as Twitter, Facebook or Instagram. One of the main objectives is to create a community among users and to encourage users within this community to interact with each other, share experiences, opinions, and even show their (dis)satisfaction or satisfaction with a product or service (Rowe, 2017). The feeling of community, together with trust and social relations, are the backbone of collaborative economy platforms (Lee, 2016).

Furthermore, the results showed that one of the main challenges in online environment is users' distrust in using digital platforms. As mentioned above, one possible way to circumvent user trust is to encourage companies to promote UGC through social networks or on their own platforms. UGC is the content about a brand or company generated by users, in a totally altruistic way, on digital platforms or social networks; in UGC, users freely express and share their experiences and opinions with other users (Reyes-Menendez et al., 2020). There is evidence that UGC has a greater impact on consumer behavior and online trust than platform-generated information (Zloteanu, 2018). According to Camacho-Otero et al. (2019), positive reviews lead to an increase in sales and participation in respective businesses. Another determining factor here is the quality of generated content.

As argued by Palos-Sanchez et al. (2018), the analysis of data from user searches provides a wealth of information and insights for collaborative economy businesses. The results of such analysis also highlight the existence of significant correlations among the terms related to social networks, technology use, and Internet access. All this confirms the importance of implementing strategies such as SEO (Search Engine Optimization) and SEM (Search Engine Marketing).

Furthermore, several other studies showed that creating content in blogs—particularly, in the tourism and hospitality sectors—is a very efficient and cost-effective way of promotion, as it improves the image of the business (Sabou et al., 2014). Likewise, there is also evidence showing that, particularly in the fashion sector, using ambassadors or key opinion leaders positively influences consumer decisions in online environments (Lee & Chow, 2020). However, this type of research has by now remained exploratory.

According to Dellaert (2019), collaborative economies have made consumers part of the production and operating process on digital platforms, which involves the development of consumer-based strategies. This user involvement is called customer co-production. However, for this to happen, it is essential that strategies with an informative and emotional-experiential nature are developed beforehand to gain users' trust (Nadeem et al., 2020). In order to identify customer these profitable co-productions and to personalize marketing actions for consumers, providing them with greater support and information so that they continue to generate value, DM strategies extensively use data analytics (Dellaert, 2019). Relationship marketing in online environment favors personalized communication with users, which is an essential factor for obtaining their feedback (Casais et al., 2020). Furthermore, close and personalized interaction reduces distrust and credibility doubts

that digital environment frequently elicits in users. Online relationship marketing (ORM) strategies are implemented to involve consumers in customer co-production (Casais et al., 2020). Our results demonstrated that the use of software for data management and analysis, as well as matching mechanisms for the development of customer-based strategies, are particularly effective in this regard (Dellaert, 2019).

Finally, the results showed that the application of Freemium models is useful to achieve differentiation on SE platforms. This effect is due to the heterogeneity of users, where price is a determining factor of consumer behavior (Querbes, 2017). In addition, this type of model allows for the exchange of user data, which is an advantage for digital marketers, as they can use these data to develop personalized strategies according to users' interests, searches, or purchase history and thus make relevant offers or provide content that is valuable to their customers. All this leads to an increase of confidence, satisfaction, and loyalty of clients on digital platforms.

This section concludes with tables 2, 3, and 4 providing a clearer view of the results obtained.

Table 2 shows a classification of authors' contribution found in the SLR according to the main DM strategies and key concepts of the SE.

Table 2. Relevant papers found in the Systematic Literature Review

Authors	Digital marketing strategies									Key concepts										
	UX	SEM	SEO	SMM	Freemium strategy	Content marketing	ORM	Influencer marketing	e-WoM	UGC	Self-storytelling	Reviews	Engagement	Community	Social Media	e-trust	e-loyalty	Consumer co-production	Ambassador	Key opinion leaders
Camacho-Otero et al. (2019)									•	•		•								
Casais et al. (2020)							•									•	•	•		
Dellaert (2018)							•											•		
Lalicic and Weismayer (2018)																	•			
Lee (2016)													•	•	•					
Nadeem et al. (2020)							•									•		•		
Palos-Sanchez and Correira (2018)		•	•																	
Pera et al. (2016)	•					•			•		•					•	•			
Pisano et al. (2015)			•			•							•		•					
Querbes (2018)					•											•	•			
Rowe (2017)										•				•	•					
Sabou et al. (2014)						•		•											•	•

Source: Own Elaboration

Table 3 provides a summary of main digital marketing strategies used in sharing economy. Key concepts are defined in Table 4.

Table 3. Main digital marketing strategies applied in sharing economy

Digital marketing strategy	Definition
User Experience Strategies (UX)	All strategies related to user experience in a concrete environment or device when interacting with a company during its purchase decision process journey. A user experience strategy consists of developing strategies that align the company's objectives, technical capabilities, and customer needs. This type of strategy is irresponsible of facilitating spaces for the creation of useful and desirable content for users, provides an accessible and easy web (usability), and increases credibility.
Search Engine Marketing (SEM)	A combination of Search Engine Optimization (SEO) and Search Engine Advertising (SEA) strategies. However, this classification is not always accepted by marketers.
Search Engine Optimization (SEO)	Strategies implemented to organically improve the authority and traffic of a website. Search results in higher positions get a better online reputation. A good positioning of the website makes it more visible and attracts users.
Social Media Marketing (SMM)	A set of actions of a company in social networks to establish a more direct communication with users and to encourage interaction between them. It promotes the creation of bonds between the brand and the user in addition to the sale of products or services.
Freemium strategy	Business model that allows users to enjoy a service for free; however, a small fee is charged for exclusive advantages or more advanced tools according to users' needs and interests.
Content Marketing	It consists of the creation of quality and updated content in the online environment (social networks, website, blogs, etc.) that is interesting to the user. It is a perfect complement to be developed together with other types of strategies, such as SEO. It aims to connect with the audience, transmit messages, and share information. It also provides value to users for free and creates bonds with them in the long term.
Online Relational Marketing (ORM)	It consists of the creation of strategies and actions customized to each user based on the provided information (e.g., search history, purchase history, questions, complaints, etc.). It aims to influence users' e-trust and e-loyalty.
Influencer Marketing	Advertising actions performed in social networks by influential people focused on their community of followers, whether large or small. The so-called influencers recommend and test a brand's products or services, fostering trust and encouraging the participation of their followers.

Source: Own Elaboration

Table 4. Key concepts in sharing economy for digital marketing

Key Concepts	Definition
Electronic word-of-mouth (e-WoM)	The exchange of consumers' positive and negative opinions about a brand, product, or service through the Internet.
User-generated content (UGC)	Content generated by users on social platforms about a brand, product, or service. Users generate content in their own profiles based on their experiences, without receiving anything in return, by encouraging interaction with other users. In addition, positive comments enhance other users' confidence in a product, service, or company.
Self-storytelling	The information shared by users in their profiles of a collaborative economy platform (e.g., profile description). It is related to personal reputation and is of crucial importance for users to connect and generate trust on these platforms.
Reviews	Users' opinions and evaluations after exchanging a product or service, or the opinions made about the users whose services (e.g., purchase, renting, etc.) they have used.

Engagement	The capacity of interaction and attraction between users and the company for the establishment of links between them. This concept is usually used as an indicator of commitment in social networks; however, in collaborative economy businesses, it refers to users' participation in this type of platforms.
Community	Users' feeling of belonging to a group in an online environment. User communities tend to be groups that are very loyal to a brand or company, particularly because of the message they convey. The users who are part of these communities are the most loyal consumers and the main advocates in the event of negative comments.
Social Media	Digital platforms where people interact with each other, generate content, exchange opinions, and create a sense of community with other users. Companies tend to use platforms such as Twitter, Instagram, or Facebook, among others, as a communication channel to create conversation and engagement with their users or to attract new ones by creating content related to the interests of their followers.
e-trust	Users' confidence in decision to (not) participate or not in collaborative economy businesses in an online environment. Online trust is a determining factor of user behavior.
e-loyalty	Consumer behavior towards a brand when, upon a successful purchase of a product or service, the consumer feels satisfied. Online loyalty also refers to the client's advocacy and the fidelity to continue buying in the company.
Consumer co-production	Participation and involvement of consumers in the functioning and processes in the sharing economy. For instance, participation and engagement of users who sell, rent, or offer services on this type of platforms are essential to the development of these companies.
Ambassador	Users, sometimes celebrities, who actively promote a brand or product because they really like it. These people frequently do not receive any kind of financial compensation for their recommendations. Such users generate confidence and reasons to participate/consume in this type of business.
Key opinion leaders	Also known as "influencers". Key opinion leaders are people who are paid by companies to promote a product, brand, or service through social networks. Key opinion leaders encourage e-WoM among their community of followers and can gain trust of other users.

Source: Own Elaboration

5. CONCLUSION

This study used the SLR methodology to identify major DM strategies used in SE business models. Based on the results of the review, we were able to answer the research questions addressed in this study.

First, with regard to RQ1 about the main DM strategies applied in collaborative economy businesses, we found that the implementation of strategies based on UX, SMM, SEO, and SEM are fundamental to achieve profitable results in this type of business. Another effective strategy to boost loyalty of current consumers and to attract potential ones is the integration of ORM strategies and interpretation of both qualitative (e-WoM or UGC) and quantitative (historical purchases or purchase value) data.

Second with regard to RQ2 questioning how digital marketing can help collaborative economies to encourage user participation in their platforms, we found that the implementation of SMM strategies, along with the support of a good development of UX within the websites or online platforms, can effectively encourage user participation and interaction. A particular important role is placed by positive UGC and e-WOM, which increase customers' e-trust and e-loyalty. Regarding increasing user participation, DM strategies are useful when are implemented as a mean of obtaining user's information. The analysis of

user's data that they leave in digital environments. This information provides insights about how to draft DM strategies successfully. For example, in case of UX strategies tracking heat maps to know how users navigate online helps to improve the usability and then users' participations in SE business. On the other hand, according to the results obtained, SMM and social networks are important to create engagement and create conversation between users, then social networks and SMM strategies implemented in this media results appealing to the interaction of users when the content created is relevant and interesting for them. To know what content is more appropriate, data analysis is key.

5.1 Managerial Implications

UGC and e-WoM are very useful sources of information for companies, a real mine of information and customers' insights. Therefore, our results imply that collaborative economy companies should provide spaces inside digital platforms where interaction between users would be encouraged. Accordingly, we recommend a greater investment in UX, as it is a fundamental basis for the development of DM strategies.

According to Reyes-Menendez (2020), the analysis of information from e-WoM and UGC allows SE businesses to better know their audiences and to implement policies oriented to clients' interests and needs through SMM strategies. A relevant example in this respect is the use of techniques such as sentiment analysis (SA) in social networks like Twitter. SA can be useful to identify users' feelings about a company or identify what topics may be more appropriate for the development of content that creates engagement with social networks (Reyes-Menendez et al., 2020). However, an inappropriate implementation of SMM strategies can negatively influence company's online reputation. All in all, UGC analysis is key to identifying insights and relevant information about consumer behavior to develop the most appropriate strategies for companies' success (Saura et al., 2019).

Furthermore, companies should be able to have the necessary resources and skills for the analysis of user data collected from their platforms and social networks. Accordingly, it is important to integrate ORM strategies. In addition to facilitating the creation of DM strategies, such as more personalized email marketing or direct marketing strategies, the incorporation of software for customer management could provide a company a greater advantage over its competitors. On the other hand, search marketing strategies must be carefully designed to achieve a better positioning in search monitors in both an organic and paid way. According to García et al. (2019), SEO strategies are the most effective to rank blogs in the highest position of search engines. There is evidence that the websites whose results appear in the first positions tend to be the ones that generate more user confidence and are thus the first to be visited. Furthermore, using tools to analyze the trends based on search terms (e.g. Google Trends) can help decision executives and managers of collaborative economy to predict consumers preferences (Palos-Sanchez & Correia, 2018).

A final recommendation is to implement freemium models for those users who have been attracted and need more exclusive services. Doing so will serve to collect information from those users. Direct personalized strategies based on users' interests and encouraging user loyalty and co-creation should also be applied.

5.2 Limitations and Future Research

The present study has several limitations. First, relevant previous studies on SE and DM strategies are rather scarce, which resulted in a rather limited dataset that we analyzed in the present study. Second, we selected a small sample to be analyzed due to the irrelevant content found in the databases according to our research objectives. And finally, there were

found some marketing strategies not to focus on online environment which are important to gain customer's loyalty and trust.

In this respect, it should be noted that, since SE businesses are developed in a digital environment, there are no notable differences with respect to e-businesses based on B2B or B2C as far as the application of DM strategies is concerned (Saura et al., 2019). However, considering a knowledge gap in this field, future research should focus on the differences between collaborative economy businesses and businesses based on a B2B or B2C relationship. There is evidence showing that, in the latter type of businesses, mobile applications (MAP) are incorporated as the main means of participating in this business model due to their easy accessibility for users (Kannan, 2017). Therefore, no mention is made of the strategies that can be implemented in apps to attract or encourage consumer participation with mobile user experience or application search optimization (ASO) and their effectiveness.

On the other hand, considering Lalicic and Weismayer's (2018) finding about SQ in an offline company and its influence on consumer loyalty, our contribution is as follows. From a digital perspective, SQ can be integrated through UX in terms of web design, ease of use of the platform, user privacy, responsiveness, and creation of spaces that encourage interaction among users, thus encouraging user-generated content. Digital spaces to evaluate or review the services/products offered is a common practice in SE businesses.

In summary, the results of the present study allow us to make the following conclusions. First, our results convincingly demonstrate the strong impact of UGC and e-WoM on consumer behavior. Therefore, collaborative economy businesses should seek for the ways to increase the volume of UGC and e-WoM on their platforms. Second, our results underscore the relevance of both qualitative and quantitative customer data collection for further analysis and interpretation. To this end, it is essential to implement DM strategies that facilitate the collection of user information and the integration of software capable of organizing and analyzing this information. Then, based on the obtained insights found, DM strategies can be used to develop appropriate actions that would best suit each consumer.

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THE IMPORTANCE OF THE LOYALTY OF FASHION BRANDS THROUGH DIGITAL MARKETING

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ABSTRACT

The fashion industry, the world's economic engine ahead of prominent sectors such as the automobile and energy sectors, has found an effective communication strategy on the Internet. Fashion brands reinvent themselves in their marketing and business strategies to adapt and approach emerging markets eager to consume fashion, which is why digital marketing becomes an essential tool for the communication of these leading brands in the market with its younger audiences. Digitization, a saturated market, consumer 2.0, influencers and a new way of communicating fashion that is more social and interactive are some of the challenges that companies in a sector in constant change and evolution, whose own visual nature, have had to overcome makes the social medium the most effective for its dissemination. The following work aims to offer an in-depth study of the new scenario that arises after the appearance of Web 2.0 and the Social Media phenomenon, which have modified the basic pillars of business communication in the Fashion sector.

Keywords: Fashion Business, Influencers, Digital Marketing, Millennials, Social Media.

JEL Classification: M31

1. INTRODUCTION

As stated by Anwar (2017) fashion is communication. Fashion is intrinsically related to social habits and it is the most accurate indicator of time and period. This way of understanding fashion has not changed since its birth. On the contrary, the way it is communicated has changed. The recent more social and interactive scenario has generated the appearance of new agents and strategies, ending the unidirectional conception that dominated communication in the business world (Bonetti & Perry, 2017).

Web 2.0 introduces a social component that has given rise to a new communicative situation in which the consumer has stopped being a passive recipient of the commercial process to participate in it. Digital users are well-informed people who have become desensitized to the stimuli of traditional advertising (Chan & Astari, 2017).

New technologies have been a challenge for all sectors, forcing marketers to rethink the most appropriate ways to reach an audience that is increasingly young and much more accustomed to the use of digital devices and interaction with brands (Cao, 2018).

The production of luxury goods is sometimes guided by multi-brand strategies in large companies that do not always take into account what is a priority for their consumers, as indicated by Chu, Kamal and Kim (2013). Luxury brands reinvent themselves in their marketing and business strategies to adapt and approach emerging markets eager to consume luxury fashion, which is why digital marketing has become an essential tool for the

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communication of luxury brands leaders in the market with their audiences, especially the youngest.

However, there are brands that resist online sales because they consider it a path that is not very adapted to the criteria of what the luxury experience implies, digital marketing becomes necessary in each of its strategies, these strategies help the knowledge of the brand, interaction with consumers and purchase motivations. This fact has forced companies to respond to the demands of web 2.0 and be present in the new social environment, in which consumers occupy the same level as companies in terms of content production (Chu et al., 2013; Clavijo Ferreira, Pérez Curiel, Luque Ortiz & Pedroni, 2017).

We already know that the Internet has always been a great showcase for fashion brands. Beyond its stores, e-commerce has been a new way of reaching end users, and social networks one more achievement of their loyalty (Clavijo Ferreira et al., 2017). That is why the large companies in this sector continually study how to have a greater presence on the Internet and overcome the competition in an original and attractive way through marketing and digital communication.

New technologies have made each client raise their expectations in relation to the brand to levels that we had not seen before. There are ways of communicating that would users have never thought about just a few years ago (Diaz Soloaga & Garcia Guerrero, 2016).

This new panorama has changed the rules of the game. It is no longer enough to be passionate about fashion, not miss a show and be aware of the latest trends. The Internet and new technologies have changed the course of this sector, marketing is more necessary than ever in the fashion industry (Godey, Manthiou, Pederzoli, Rokka, Aiello, Donvito & Singh, 2016).

Today, more than two-thirds of companies have seen their revenues decline since the start of the pandemic, according to a survey conducted by the Dublin-based Digital Marketing Institute (DMI). It's no wonder that brands and retailers, especially small businesses, have lowered their overall marketing expense and are channeling their advertising online (Godey et al., 2016).

Covid-19 has redefined the customer experience and journey. It has created an environment in which the relationship between online commerce and offering a personalized experience is nuanced and in which digital efforts must be intensified (Jain & Mishra, 2020).

Digitization-based strategies are more important than ever as, despite overall budget cuts, digital budgets are increasing. 49 percent of those surveyed focused their marketing investments on digital, and 28 percent of them have been spending 90 percent or more of their marketing budget on digital strategies rather than traditional ones.

Although the industry did not anticipate the intensity of the crisis, some fashion companies are realizing that they are better equipped than others, largely thanks to their digital savvy, McKinsey says. As it has been proven some fashion and luxury companies have not survived the pandemic, and others will be better positioned for the future, McKinsey says. It will depend on your digital and analytical capabilities.

Therefore, the main objective of this research is to know what the current strategies in digital marketing that are being carried out by brands in the luxury fashion sector. The aim is to identify the most relevant aspects in the communication of brands with their audiences in a virtual environment through the development of a systematic literature review. As a result of the problems raised, this research proposes the following research question:

RQ: Do digital marketing and the use of social media tools help fashion brands to retain customers? If so, what are the main digital marketing techniques used in the fashion industry?

The originality of this research lies in the fact that companies in the fashion sector have to make more and more investment in digital marketing tools in order to retain current customers but above all to attract new users.

The main digital marketing tools that fashion companies focus on are SEO, SEM and social media tools, highlighting the promotion of products through influencers.

When marketing luxury products, photographs are one of the best mediums for evoking the aspirational emotions that we connect with driving a luxury vehicle, wearing designer clothing, or experiencing something exclusive. As such, visual social networks like Pinterest represent a huge opportunity for luxury brands to raise brand awareness and advocacy. In fact, Chanel is one of the most 'pinned' brands on the social network, with over 1,244 pins of Chanel products pinned on the social network per day on average. This is made even more impressive when you consider that Chanel does not even have an account on Pinterest (it's all driven by their advocates).

Generally speaking, luxury brand websites are very stylish, but perform poorly when it comes to user experience and functionality. Aston Martin and Versace are both great examples of what luxury brands should be doing with their websites. Their websites are visually stunning, while very easy to use, and highly functional.

Communicating the story behind your products, and explaining the values that define a luxury brand, is fundamental to effective luxury marketing. Facebook Ads are one of the most effective forms of online advertising, thanks to the high level of segmentation and targeting that you can do. You could, for example, target ads specifically to married 35-year-old males from Paris who like the brands Prada, Gucci, and Versace. You can even go one step further and target people by what college they attend, where they work, what their job title is, what music they listen to, and much more (Padilla Castillo & Oliver González, 2018).

Google is one of the most influential channels when it comes to helping luxury shoppers find products, learn more about brands, and make their purchase. As we've already alluded to, most luxury brands have pretty poor websites (Pérez Curiel & Luque Ortiz, 2018). Unsurprisingly, most of those websites also have extremely bad SEO, making it difficult for their websites to rank well in Google for search terms that would otherwise capture potential customers. SEO is an untapped goldmine for luxury brands. If your site isn't SEO-friendly, you're likely to be leaving a lot of potential traffic and revenue on the table.

Because one of the primary motivations for buying luxury goods is to display status, brands can take advantage of this by creating and publishing content that, when others share, will make them look stylish, smart, or cool to their friends (González Romo & Plaza Romero, 2017).

Exclusivity is fundamental to luxury brand marketing as it maintains consumer desire through scarcity and rarity. Given the Internet's accessibility and autonomy, many luxury brands worry about losing their sense of exclusivity when it comes to going online (Purwaningwulan, Suryana, Wahyudin & Dida, 2018). For luxury brands, the Internet does not represent wider distribution of actual products. It's a wider distribution of the content that evokes the desire to buy luxury products. Exclusivity can be created online through private member groups, concierge services, or digitally delivered loyalty perks that are reserved specifically for previous customers.

Email marketing is extremely effective for eCommerce marketing and increasing customer loyalty, as it provides the opportunity to educate consumers and tell them about new experiences or products offered by the brand (Rathnayaka, 2018).

Therefore, to answer the question posed, this research develops a systematic review of literature (RSL) focused on digital marketing and the fashion sector that identifies a total

of 11 scientific articles published in journals indexed in the databases Scopus, PubMed, PsyINFO, ScienceDirect and Web of Science (Reyes-Menendez, Saura & Filipe, 2019).

This research is structured as follows, firstly, the introduction and the theoretical framework are presented together with the literature review. Afterwards, the methodology and the analysis of the results are shown. Finally, the discussion and conclusions are developed.

2. THEORETICAL FRAMEWORK

Communication between advertisers and consumers has been in need of transformation since the creation of the internet and due to its involvement in the traffic of information between individuals and groups (Reyes-Menendez, Saura & Stephen, 2020). The field of fashion is one of the sectors in which the change has been most radical. By associating its communication with the advertising world, clearly marked by the objective of attracting the interest of the viewer and convincing them to consume its products, it has had to deviate and converge with other non-traditional media to ensure that its messages are received and effective in the public.

However, these changes affect the entire structure of production, marketing, distribution and promotion of the products of fashion brands. With the new digital era, they have had to establish a certain balance and complementarity between traditional communications, such as fashion magazines, and new digital media, especially social networks (Ríos, 2016).

This balance is given by the change of focus of the communications themselves. It is no longer just to show and convince of the usefulness of a product, but also to know the brand as if it were just another friend (Rizun & Kucharska, 2018). This connection with the receiver creates the so-called engagement, the union of the consumer with a brand due to the values and emotions associated with it and that they share with each other, with specialized content (branded content) that create and / or reinforce the loyalty of the public in front of the rest of the brands.

Some of the consequences of these changes are the creation of new communication forms such as fashion films or brand ambassadors that seek to provide entertainment and consolidate, reinforce or transmit a clear brand image, respectively, to stand out in a market saturated with messages and advertisement (Saura, 2020). In addition, new professions have emerged in recent years as the figure of the influencer, which almost completely reflects all the changes produced by the technological and structural transformation of the sector (Romo, García-Medina & Romero, 2017).

Due to the growing and evident use of new technologies today, many of the daily actions have been carried out with a great technological dependence, such as the simple search for information of various kinds.

Adopting a uniform strategy across categories appears to be key for established fashion houses looking to revitalize their image and offering (Saura, Reyes-Menendez & Thomas, 2020). Just as important is respecting the origins of the brand and looking for new and creative ways to tell stories for the modern digitally savvy consumer.

Delivering a strong and powerful message is becoming increasingly important in the busy and saturated luxury market. "Having something relevant to say is the first challenge for brands today. Otherwise, direct-to-consumer digital communication becomes nothing more than another source of unwanted advertising and a nuisance," says Luca Solca, Director of Luxury at BNP Exane Paribas. Digital should not blur the message of the brand but amplify it.

Social networks are axes of attraction for the millennial profile. Millennials are a digital generation, hyper-connected and with high social and ethical values, since they are those young people born between the early 1980s and the late or mid-1990s. The comments of millennials on social networks are more related to the physical image of the influencers than to the product promoted by the brands (Arora, Bansal, Kandpal, Aswani & Dwivedi, 2019).

Traditional marketing has undergone a change due to the appearance of a new consumer who decides what to buy, how, when and where and what to use it for and what type of service they want to receive and when he loses confidence, he abandons it and changes it (Joo & Ha, 2016).

The fashion sector begins to seek the participation of influencers to communicate messages about its brand or product with the aim of increasing visibility, transmitting a specific image or improving prestige on-line. That is why companies are focusing their efforts on social media marketing and 84% of companies confirm that they have integrated social media into their traditional marketing activities (Javier Cristofol, Segarra-Saavedra & Cristofol-Rodriguez, 2019).

According to Arora et al. (2019), consumers look for people and institutions that they can trust. "Brands and companies have understood it and have become social actors in the networks as well as looking for connectors or people who can expand their message."

A real opportunity arises for companies since affordability, accessibility and proximity are substantial principles to influence the purchasing decisions of the new generations who, in general, spend much more time on the Internet than the usual means (Kam, Robledo-Dioses & Atarama-Rojas, 2019).

The attraction of fans to influencers, especially in the field of fashion, increases in direct proportion to the popularity and success of these figures. People use fashion to reflect their identity and personality, and it is this social characteristic of the industry that makes the digital environment and social media the space for users to share their tastes and interests in fashion (Koivulehto, 2017).

On the other hand, we must not forget that one of the main problems derived from virtual commerce is the lack of trust, which in many cases deters the consumer from making an online purchase. Fortunately, the more time consumers spend online and the more luxury fashion brands invest in telling stories online, the greater the opportunity to collect real-time data on current and potential consumers. This online data collection is essential for effective storytelling and writing for the right audience (Liu & Zhang, 2019).

Currently data collected online shows that the target audience for most luxury fashion brands are millennials. For luxury fashion brands, direct marketing for millennials requires an online presence and the use of social media tools according to Miquel-Segarra (2018). As Miquel-Segarra points out, social media tools like Instagram help increase search engine optimization (SEO) for a luxury fashion brand and increase brand awareness (Navarro, 2016).

Nannini (2020) also states that the quality of content on the Internet is one of the most important elements of the digital revolution. Organizations generate most of the digital content, but more and more people are using digital airwaves to advertise their messages and user-generated content from social media platforms.

It is important to consider that each social media tool and online platform has a different format for sharing content and getting support for a luxury fashion brand. Every social media tool and online tool must have a coherent content structure to drive a brand's narrative. Storytelling across multiple channels helps to tap into a luxury fashion brand's current consumer base and foster relationships with new consumers.

Additionally, social media tools and other online platforms provide real-time data on consumer behavior, interests, and how and where consumers spend time and money. Luxury fashion brands get a high return on investment through direct online marketing.

Thanks to social networks, organizations are no longer a source of information about the brand and the communication process is no longer one-way to start the search for a continuous dialogue, since loyalty is the most lasting asset of a company and a primary object of relationship marketing. Fashion firms try to adapt the content to each of the platforms and try to optimize the characteristics and differential advantages of each of them. Therefore, Saura, Rodríguez Herráez and Reyes-Menendez (2019) indicate that companies should take adequate measures to generate content, interact with consumers and share product information in the community in order to offer more alternatives and more brand experiences to their consumers.

Fashion is an industry that has a very short product life cycle and is totally dependent on changing trends. Marketers should be able to analyze and forecast fashion trends before customers switch to competition, so that the fashion professional becomes a trendsetter and digital media becomes the best platform for acquiring and converting customers through the measurement and optimization of digital media in order to satisfy customers to retain them loyal for life.

The customer is the decisive factor that defines the success or failure of a business. Although technologies and development undertaken by today's competitive business world, the central concentration for the customer remains the same or higher than in previous times (Sudha & Sheena, 2017). In the context of the fashion industry in the digital age, consumer behavior has shifted to a digital culture where they became more informative with increasing access to information. As a result of this situation, consumers are not loyal to fashion brands and focus on the momentum and information obtained through social networks.

3. LITERATURE REVIEW

From approximately five years on, customer opinions through reviews and comments on social networks are increasingly influential for the rest of online consumers.

All these opinions, suggestions and comments written in the digital media of fashion companies are a great source of information. This information drives consumer behavior in such a way that more and more consumers are informed before buying a product through online commerce and even in physical stores (Torres, 2017).

Several studies showed that approximately two-thirds of customers prefer to read consumer reviews online rather than relying on brand descriptions themselves. These comments are visited by hundreds of thousands of potential visitors (Wu, Chaney, Chen, Nguyen & Melewar, 2015).

In the case of fashion, the most important role is played by influencers, since they are the ones who show current fashion trends and generate quality content for their social media profiles with said garments or products, thus becoming brand ambassadors with the objective of turning the garments or products that they exhibit into the top sales of their own brands.

The attraction of fans to influencers increases in direct proportion to the popularity and success of these figures. People use fashion to reflect their identity and personality and it is this social characteristic of the industry that makes the digital environment and social media the space for users to share their tastes and interests in fashion.

On the other hand, we must not forget that one of the main problems derived from virtual commerce is the lack of trust that in many cases deters the consumer from making an online purchase.

Fortunately, the more time consumers spend online, the more investment brands will make in digital media in order to obtain a greater opportunity to collect real-time data about consumers. For luxury brands, direct marketing to millennials requires an online presence and the use of social media tools.

Thanks to social networks, fashion brands, in addition to generating higher quality content, have also ceased to be just a brand information station. Now the communication process is two-way to seek continuous dialogue with customers since loyalty is the most lasting asset of a company.

In this way, digital tools allow companies to be in contact with their customers not only to show them content, but also to act as a problem solver in an instant online purchase in order to offer more alternatives and more brand experience to its consumers.

4. METHODOLOGY DEVELOPMENT

Following Yadav and Rahman (2017), in this study, our objective was to provide an overview of previous research on the influence of digital marketing on the way people consume fashion, retain customers and communicate messages about a brand or product with the aim of increasing visibility.

This study focuses on the analysis of the evolution of traditional marketing towards one that is more digitized and adapted to new needs. To this end, we critically examine the available literature on digital marketing in fashion and behavioral approaches to analyze and identify them for fashion companies.

The RSL focuses on the two main themes: (i) reviews and comments on social media; (ii) influencers. Following Saura (2020), we used a randomized controlled process to select the main topics and the consequent search terms "digital marketing" and "fashion".

The scientific databases of Scopus, PubMed, PsyINFO, ScienceDirect, and Web of Science were used to collect relevant studies on the topic at hand. It is noteworthy that when searching for "Title" in the Web of Science scientific database, only one article met the search requirement mentioned above, which contained both "digital marketing" and "fashion" in the title. Therefore, articles that were initially obtained as a result of the search and that dealt with the topic of digital marketing have been included, even if they did not specifically focus on fashion brands.

We therefore conclude that the knowledge explained in these studies could be extended to address the problem of customer loyalty for fashion brands. The search yielded a total of 55,600 articles; After applying different filters, a total of 11 studies were selected for further analysis. All articles were analyzed by reading the titles and abstracts and selecting those that met the inclusion criteria. Next, we analyze the 11 selected articles. In the article selection process, the recommendations made by Van den Bosch and Ode Sang (2017) have also been followed. These recommendations include searching for keywords across multiple databases, predefined inclusion criteria, and data extraction based on selected keywords.

Figure 1. PRISMA 2009 Flow Diagram
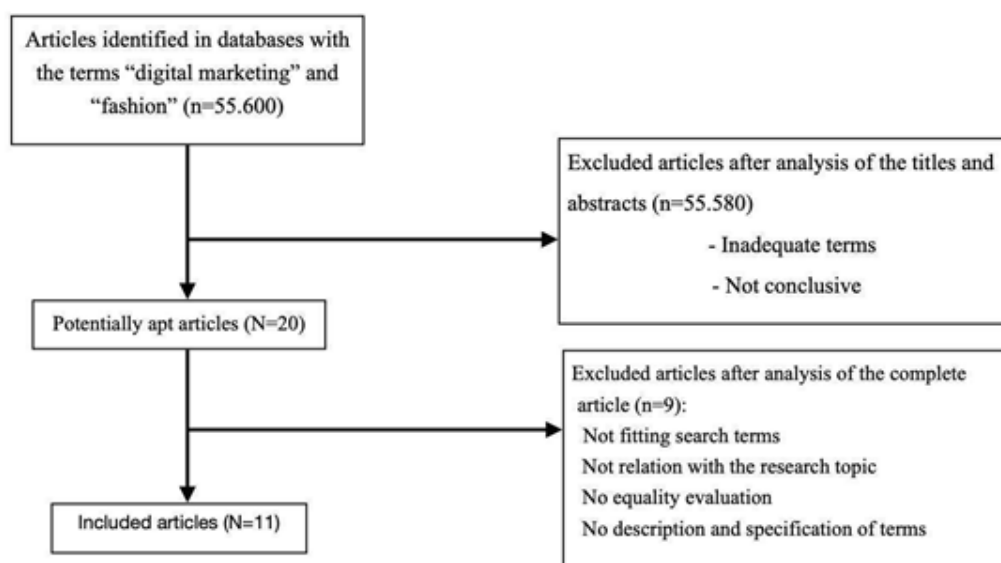
Source: Google Scholar 2016-2020

To do this, following Saura (2020), we used the 2009 Flow Diagram of Preferred Reporting Items for Systematic Reviews and Meta-analysis (PRISMA). This method, introduced by Moher et al. (2009), provides guidelines for developing systematic reviews and meta-analyzes that include conceptual and practical advances in the science of systematic reviews. One of the phases of the PRISMA flowchart is to discard articles that have inappropriate or inconclusive terms.

The terms considered inadequate or inconclusive are those that a priori may correspond to the keywords; however, upon reading the article in depth, it is observed that they are not within the scope of the investigation. These terms can be misleading, as in the case of reviews that can be tourist reviews or peer reviews.

The aim of this study is to achieve as much evidence as possible in the results based on high quality studies. Some of the variables used in AMSTAR to assess the quality of the systematic review were (i) the relationship of the research question with the criteria included in the study; (ii) the extraction of data from at least two independent researchers; (iii) the quality of the literature review, (iii) identification and definition of concepts; and (iv) the quality of the conclusions expressed in the study.

5. ANALYSIS OF RESULTS

As a result of the methodological process developed, it has been found that digital tools (Table 1) provide viable opportunities for brands to establish relationships with consumers and promote brand loyalty.

Tools on social media and other online platforms provide real-time data on consumer behavior and interests and how and where they spend time and money. Fashion brands get a high return on investment through digital marketing.

The SEO tool allows fashion brands to carry out their web positioning strategy and thereby detect sales opportunities, through data analysis, keywords, etc., that users may be using.

The use of social networks in fashion: Instagram, Twitter and Facebook is one of the main digital marketing strategies in the fashion sector, since in addition to generating quality

content, it has also allowed dialogue with consumers to be continuous to achieve loyalty from them, making it the most important asset of a company.

Fashion is the sector that invests the most in paid platforms for the creation of online ads: Google Ads, Social Media Ads.

On the other hand, the role of the influencer in fashion brands refers to the attraction of fans since the success of these figures allows them to attract consumers who are reflected in a specific identity and personality. This social characteristic of the industry makes the digital environment and the social media environment the ideal space for users to share their tastes and interests in fashion.

Table 1. Main Techniques of Digital Marketing

Technique	Description
Search Engine Optimization	It is the process of maximizing the number of visitors to a website, making sure that the website appears in the top search list.
Search Engine Marketing	In the fashion sector, e-commerce through Google Ads provides an increase in sales that can grow the web business.
Instagram	This social network helps increase search engine optimization which increases brand awareness.
Facebook	It is used to promote products and fashion brands, but also specially to establish relationships and create communities of followers.
Twitter	It is one of the most used social networks in the fashion sector by brands, since it has the ability to achieve a more dynamic and greater communication between the consumer and the brand.
CRM	It enables companies to create and maintain long-term relationships with existing and new customers while optimizing corporate performance for the organization.
Código QR	Mobile technologies simplify the entire purchase process through QR code scanning and barcode reader.
Big data	Fashion brands can use data analytics which is the science of extracting raw information, and can reveal trends and metrics to influence current affairs and plan future storytelling content to communicate with consumers.
Influencer	The most important role in the fashion sector is played by influencers as they are the ones who show current trends to brand consumers directly.

Source: Own Elaboration

Below, we make reference to the articles and authors selected for the current research. The selected magazines mostly belong to the categories of digital marketing and social media since these are the ones that give us the keys to study the digital field in the fashion sector (See Table 2).

Table 2. Items Identified as a Result of RSL

Authors	Title	Journal	Category
Rathnayaka (2018)	Role of Digital Marketing in Retail Fashion Industry: A Synthesis of the Theory and the Practice	Journal of Accounting & Marketing	Marketing management
Pérez and Luque (2018)	El marketing de influencia en moda. Estudio del nuevo modelo de consumo en Instagram de los millennials universitarios	AdComunica	Estrategias, Tendencias e Innovación en Comunicación
Miquel-Segarra (2018)	The use of Twitter on fashion brands. A comparison between luxury and low-cost brands	Cuadernos.info	Digital marketing
Rizun and Kucharska (2018)	Text Mining Algorithms for Extracting Brand Knowledge: The Fashion Industry Case	SSRN	Digital marketing
Cao (2018)	The growth of e-commerce and its impact on the fast fashion retailers	Theseus	Science

Romo et al. (2017)	Storytelling and Social Networking as Tools for Digital and Mobile Marketing of Luxury Fashion Brands	iJIM (International Journal of Interactive Mobile Technologies)	Digital Marketing
Navarro (2016)	La influencia de los blogs de moda en el comportamiento del consumidor: un enfoque exploratorio	Vivat Academia	Digital Marketing
Díaz et al. (2016)	Fashion films as a new communication format to build fashion brands	Communication & Society	Digital Marketing
Pérez et al. (2017)	Social Media y Comunicación Corporativa. Nuevo reto en las empresas de Moda	Revista Latina de Comunicación Social	Social Media
González et al. (2017)	La evolución de las marcas de lujo en el desarrollo de estrategias de comunicación digital	Voces alternativas: investigación multidisciplinar en comunicación y cultura.	Social Media
Sudha et al. (2017)	Impact of Influencers in Consumer Decision Process: The Fashion Industry	SCMS Journal of Indian Management	Digital Marketing

Source: Google Scholar 2016-2020

6. DISCUSSION

The results of the research show that influencers are the main attraction for the millennial profile, and it is proved that their comments are more related to the physical image of the influencers than to the product promoted by fashion brands. As Ríos (2016) says in the article Influence marketing in fashion in 2018, the fashion sector begins to seek the participation of influencers to communicate messages about its brand or product with the aim of increasing visibility, transmit a certain image or improve online prestige. That is why companies are focusing their efforts on social media marketing.

It has been found that fashion brands and companies have understood that it is necessary to have a representative figure that allows them to act as connectors with users and thus expand their message, coinciding with the conclusions proposed by Purwaningwulan et al. (2018).

The attraction of fans to influencers, especially in the field of fashion, increases in direct proportion to the popularity and success of these figures. Navarro (2016) confirms that according to a survey carried out among those born between 1982 and 1999, they are the ones who are part of the target audience of the main social media platforms (Facebook, Twitter, Instagram and YouTube) and are interested in fashion consumption and beauty.

On the other hand, a problem that derives from virtual commerce is detected since the lack of trust on the part of the users, many times discourages the consumer from making a purchase. The storytelling techniques and quality content of fashion brands can persuade consumers and present reasons to buy products based on the conversations of consumers about what they want (Nannini, 2020).

According to Miquel-Segarra, S (2018) loyalty is the longest lasting asset of a company and a primary object of relationship marketing. For this reason, fashion firms try to adapt the content to each of the digital platforms and try to optimize the characteristics and differential advantages of each one of them.

The consumer's purchasing behavior or decision-making is a final decision of the customer, which is made based on the impact produced on the purchase stimulus. The salesperson plays an important role in inducing the customer through external marketing efforts through product, price, location, or promotion. But as Kam et al. (2019) stated that consumer behavior in the digital age has changed to a digital culture where they have become more informative, therefore, it has become a great challenge for companies to retain customers for a long period of time.

7. CONCLUSION

This research has proposed the study of how fashion brands use digital media and social media to retain their customers. This is made by creating quality content addressing a specific target audience (millennials) through a series of tools as they are mainly the influencers. Through their opinion about the products and the comments of other users they generate trust in other customers that is increasingly difficult to achieve in a sector with numerous options.

The methodology developed has been an overview of previous research on the influence of digital marketing on the way people consume fashion, build customer loyalty and communicate messages about a brand or product with the aim of increasing visibility.

It has resulted in a total of 11 articles, within the categories of digital marketing and social media in the fashion sector.

Therefore, responding to the RQ proposed in this research, does digital marketing and the use of tools in social networks help fashion brands to retain customers? If so, what are the main digital marketing techniques used in the fashion sector? We can say that the fashion sector is a market with many options and that customer loyalty will depend on the investment made by companies brands.

The creativity of the one who produces the message ends up being replaced by the creativity of the one who emits it since the influence replaces the notoriety and the ingenuity to the investment in media, where the communication takes place, now real.

From now on, taking care of the image and communication in the media for the audience can be a turning point for brands and thus declare a new beginning.

7.1 Theoretical Implications

Together, the results of this study underline the need to investigate the investments of fashion brands in digital media, as well as the way to act and communicate with users on social networks, through new quality content on a continuous basis.

Fashion brands must create different content for each of the existing social networks since each of them focuses on a different target audience, without forgetting that about 80% of online users belong to the millennial generation.

Although the benefits and advantages of the network have been proven, it can also cause certain weaknesses, such as the impact of ads on your pages. This is an issue that confuses brand planners and therefore it becomes essential to investigate the effectiveness of banners or advertisements published in digital media.

7.2 Implications for Marketers

The first thing that a company in the fashion sector must identify is what its target audience is, since its investment in digital media and what type of tools to use will depend on it.

Second, users want to feel identified with the content generated by fashion companies on social networks, as this will provoke positive opinions from users, influencing the purchase decision of new ones.

With all this, communication agencies will be able to identify the correct digital marketing strategy so that fashion brands can carry it out and thus retain new users and give rise to a new way of totally two-way communication.

Choosing the tone and language of a brand when communicating with its consumers in digital media should be one of the first tasks of any online communicator. Ideally, the brand can speak in the same tone as its consumers to get more attention from them.

Communication in digital media must be based on four principles: engagement, entertain, communicate and sell, with an informative, personal and direct nature.

Brands must develop and own motives related to their community. This is what consumers value and supports contributing to brand loyalty on their part. Therefore, it is important to listen to their needs and opinions and how they influence other users.

7.3 Limitations and Future Research

The results could be used to generate studies of new behavior models of online users, as well as to identify new models of purchase through social networks and based on the opinions of other consumers.

In this way, experts will be able to better understand which way to go and what tools to use in your company's digital media.

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A DYADIC APPROACH TO ADOLESCENTS' RISKY ONLINE BEHAVIORS

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ABSTRACT

This research analyzes the discrepancies respecting parents' and their children's perspectives on adolescents' risky online behaviors and parental mediation. Rather than focus solely on youth outcomes, this study explores dyadic data, by comparing reports from adolescents attending 7th to 12th grades in Portuguese schools and those of their parents (N=1016). Moreover, this research considers the existence of defense mechanisms influencing adolescents' reports, a factor that has been neglected in previous studies. Differences regarding adolescents' gender, parents' gender, and adolescents' school year are considered and tested using One-way ANOVA. Within the family unit, the only members considered by adolescents to have the same or more online and computer skills than the teenagers themselves are their older siblings. Practical implications aiming to mitigate the risk involved in adolescents' online experiences, and theoretical contributions to the field of prevention and youth well-being in the context of consumer behavior in the digital age are discussed.

Keywords: Online Risk Behavior, Online Consumption Behavior, Youth Well-Being, Parental Mediation, Online Prevention, Dyadic Approach.

JEL Classification: I31, M39

1. INTRODUCTION

Despite the advantages of the Internet, one of the challenges regarding adolescents' experiences in online environments is the level of risk taken in online activities (Walrave et al., 2016), which some authors stress to have a potential negative impact on safety, school, relationships, and well-being (Echeburua & de Corral, 2010; Vangeel et al., 2016). Subsequently, recent studies acknowledge that parental awareness about adolescents' online risky behaviors is still under-researched (Byrne et al., 2014; Symons et al., 2017), especially with respect to dyadic approaches including both perspectives of adolescents and parents. This line of research has been advocated as crucial in the development of strategies to mitigate adolescents' potentially harmful online risks, whether content, contact, commercial, or privacy-related (Livingstone & Haddon, 2008). Ultimately, the underlined rationale of dyadic studies on this topic is that parental knowledge is a protective factor in terms of adolescent adaptation and fundamental for adjusting parenting strategies and public campaigns (e.g. social marketing) to the needs of adolescents (Symons et al., 2017). Indeed, current research stresses the crucial role of parenting in helping to foster optimal adjustment and behavior during the period of adolescent within a challenging and fast-changing context (Maholmes, 2018).

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The Internet has become a dominant part of adolescents' lives, where online and mobile applications multiply opportunities to create, share and consume content, as well as to contact others (Walrave et al., 2016). Social network sites (SNSs) have gained special preference among youngsters as a way of exploring online new forms of communication, consumption and possibilities to express their identity (Marwick & boyd, 2014). Indeed, these platforms accommodate specific needs inherent to adolescents' development, who desire to be more autonomous from their parents and receive feedback from their peers (Buhrmester & Prager, 1995). Notably, around 93% of teenagers possess an account on a social networking site (Walrave et al., 2016). Since SNSs encourage the dissemination of individuals' personal information (Robinson, 2016), research has pointed out that online self-disclosure, in comparison to offine environments, occurs to a greater extent (Barak & Bloch 2006; McCoyd & Kerson, 2006). Moreover, previous research revealed that teenagers have higher levels of disclosure when they feel less inhibited in using media such as instant messaging (IM) (Schouten et al., 2007), which is closely connected to SNSs. Comparing to adults, research suggests that youngsters disclose more information and tend to use fewer privacy settings on SNSs, though engaging in more online potential risks (Christofides et al., 2011). In social media, disclosure can be related both to the process of providing personal details on the profile page, and the process of publicly communicating thoughts, feelings, and activities, which can range from non-intimate to more intimate nature (Krasnova & Veltri, 2012; Lin & Utz, 2017). Additionally, the traditional concept of friendship has been changing in the social media environment and shaped by the notion of anonymity (Maholmes, 2018).

In a European context, by 2018 the share of EU-28 households with Internet access had risen to 89%, which is a 29 percentage points increase over a ten-year period (Eurostat, 2019). In Portugal, in 2019, 80.9% of the Portuguese families had access to the Internet. However, access to the Internet at home increases to 94.5% in households with families with children up to 15 years old (Portugal Statistics – INE, 2019). In 2019, Facebook continued to be the SNS most used in Portugal, where 95.3% of SNSs users had a Facebook account (Marktest, 2019). Moreover, in Europe, after Sweden and Finland, Portugal has the highest number of mobile subscriptions per 1000 inhabitants, and is the EU country having the highest increase since 1989 (Pordata, 2018). Notably, Pontes et al. (2014) found that 13% of a Portuguese sample of teenager students had a high incidence of Internet addiction. This phenomenon had been anticipated by Livingstone and Haddon (2009). The researchers recommended further research and the development of strategies for minimizing children's online risks in countries such as Portugal, since this was considered one of the European countries having a more recent rapid adoption of the Internet and where access seemed to exceed skills and cultural adjustment. These facts emphasize the need to develop further research using a dyadic perspective about adolescents' online activities and risky behaviors.

The present research contributes to the understanding of discrepancies existing between parents and their children's reports regarding adolescents' online risks and parental mediation strategies. This research uses dyadic data that allow performing a reliable comparison between the perspectives of parents and their children, in the Portuguese context. Moreover, the present study considers the effect of defense mechanisms in the adolescents' reports, particularly the projection mechanism, by attributing actions to others, such as their "friends" (Cramer, 1987; Vaillant, 1992). Notably, this factor has been absent from previous research. Ultimately, this research presents practical implications seeking to minimize adolescents' online risks and makes a theoretical contribution to the field of prevention and youth well-being in the context of consumer behavior in the digital age.

2. LITERATURE REVIEW

2.1 Adolescents' Online Risky Behaviors: Parents' Perspective

While alternative subcategories are suggested in literature, Livingstone and Haddon (2008: 6) identify four different categories of online risks that children and teenagers can experience when using the Internet: content risks (e.g. exposure to sexual and violent content), contact risks (contact with strangers and cyberbullying), commercial risks (e.g. gambling), and privacy risks (e.g. giving out personal information and invasion of privacy). Although research suggests that adolescents are aware of how to preserve online privacy, adolescents do not always engage in safe-protection practices (Walrave & Heirman, 2011; Robinson, 2016). One reason for parents' misconceptions about adolescents' online actions may reside in what different groups perceive as private information, since what is private information to adults does not necessarily carry the same meaning for adolescents (Christofides et al., 2011). Moreover, adults perceive information interactions in a more complex fashion than younger people do (Robinson, 2016). This process may result in different perspectives regarding the most important strategies for maintaining safety in an online environment.

Against this context, studies analyzing adolescents' risky online behaviors (by focusing on both parents and their children's reports) have been highlighting discrepancies showing that parents still have little knowledge about adolescents' potentially harmful online behaviors. Of nine published studies that were identified as following this line of research (Table 1), three were performed in the US (Cho & Cheon, 2005; Cottrell et al., 2007; Byrne et al., 2014), one in the UK (Livingstone & Bober, 2004), Netherlands (Dehue et al., 2008), Sweden (Sorbring, 2014), Singapore (Liau et al., 2008), and Belgium (Symons et al., 2017), respectively, and one was developed in 25 countries of the EU Kids Online Network (Livingstone et al., 2011). Of those studies, six used paired-samples, which allow comparing children's reports directly with those of their parents (Cho & Cheon, 2005; Cottrell et al., 2007; Livingstone at al., 2011; Byrne et al., 2014; Sorbring, 2014; Symons et al., 2017). Symons et al. (2017) use triadic data by comparing reports from mother, father, and children belonging to the same family unit. The remaining studies use independent-samples (parents and adolescents) for the analysis.

Table 1. Dyadic studies on adolescents' online risks

Authors	Sample	Research Aim
Livingstone & Bober (2004)	Country: UK Instrument: Face-to-face survey Samples: Independent Parents (N=906) Children and adolescents aged 9-19 years old (N= 1511)	To study the use of the Internet with an evaluation of online risks.
Cho & Cheon (2005)	Country: US Instrument: Self-administered questionnaire Samples: Paired Parents (N=178) Children and adolescents aged 11-16 years old (N=178)	To explore children's exposure to negative online content by building a theoretical model that examines the effect of family context factors on children's contact with negative Internet-based content.
Cottrell et al. (2007)	Country: US Instrument: Self-administered questionnaire Samples: Paired Parents (N=518) Children and adolescents aged 12-17 years old (N=518)	To analyze models predicting adolescents' involvement in online behaviors of which their parents would disapprove. To examine the factors associated with adolescents' future intentions to engage in these behaviors.

Dehue et al. (2008)	Country: Netherlands Instrument: Self-administered questionnaire Samples: Independent Parents (N=831) Children and adolescents from primary and secondary schools (N= 1211)	To study the prevalence and nature of cyberbullying of and by youngsters and the related parental perceptions.
Liau et al. (2008)	Country: Singapore Instrument: Survey online (students) self-administered questionnaire (parents) Samples: A paired sample was generated from larger independent samples Parents (N=169) Children and adolescents aged 12-16 years old (N=169)	To analyze the parental awareness and monitoring of adolescent Internet use.
Livingstone et al. (2011)	Country: 25 countries (EU Kids Online network) Instrument: Survey administration at home, face-to-face, with a self-completion section for sensitive questions Samples: Paired Parents (N= 25142) Children and adolescents aged 9-16 years old (N=25142)	To empirically examine European children's and parents' experiences, as well as practices regarding risky and safer use of the online environment.
Byrne et al. (2014)	Country: US Instrument: survey Sample: Paired Parents (N=456) Children and adolescents aged years old (N=456)	To analyze variables within the family context that can be used to predict parental underestimation of if their child has engaged in risky online experiences.
Sorbring (2014)	Country: Sweden Instrument: Self-administered questionnaire Sample: Paired Parents (N=798) Children and adolescents aged 13-15 years old (N= 798)	To analyze parents' worries and concerns regarding their children's use of the Internet. To explore existing connections between parents' concerns and different parental and child profile and Internet use.
Symmons et al. (2017)	Country: Belgium Instrument: Self-administered questionnaire Sample: Paired (triadic data) Parents (N=357) Children and adolescents aged 13-18 years old (N= 357)	To analyze parental knowledge about adolescents' online activities and experiences with online risks.

Source: Own Elaboration

Studies comparing reports from both parents' and adolescents' perspectives on online content risks have mostly assessed age-inappropriate content regarding violent or sexually related materials (Symons et al., 2017). However, in their study on "how adolescents negotiate context in social media", Marwick and boyd (2014) advocate that, while the act of sharing content (such as photos) is central to participation in social media networks, shared photos can reveal much about on user's personal and social environment. In particular, Varderhoven et al. (2014) found that while Flemish adolescents shared significantly fewer pictures showing risky behaviors to "friends-of-friends" than "friends" on Facebook, 23% were tagged in photos showing themselves partying, 16% in swim or underwear, and 13% in situations of alcohol use. Literature stresses that teenagers use photos as a form of expressing their identity and sharing the self with their peers, which sometimes results in tagging and being tagged by others in inappropriate photos. Subsequently, this process can be experienced as a violation of privacy (Marwick & Boyd, 2014). Moreover, Peluchette and Karl (2008) found that a considerable percentage of adolescents with an SNS-active profile would not want their prospective employers to see published posts in which they were depicted. Despite the existing processes of self-norms regulation between peers (Livingstone, 2008; Marwick & Boyd, 2014), the process of posting pictures plays an essential part in SNSs. For example, Huang et al. (2014) concluded that contact with friends' online photos depicting situations of partying or drinking was significantly related to both smoking and alcohol use.

Concerning contact risks, cyberbullying has been a central concern related to deviant behavior in an online environment, which parents may not be fully aware of (Livingstone & Bober, 2004; Cho & Cheon, 2005; Dehue et al., 2008; Byrne et al., 2014). This phenomenon is related to continuous hostile behavior via information technology, such as email, IM, SMS, and SNSs, with the intention of attacking or embarrassing a peer (Kiriakidis & Kavoura, 2010; Law et al., 2010; Byrne et al., 2014). This risky online behavior reaches its peak during adolescence and can be approached in the perspective of cyber aggression and cyber victimization, meaning that the individual can be the perpetrator, the victim, or engage in both behaviors (Slonje et al., 2013). A study developed in Belgium showed direct relations between victimization and perpetration (Pabian & Vandebosch, 2016). Moreover, studies comparing parents' and children's reports have also assessed contact risks through adolescents' interactions with strangers by adding people they do not know to their online network (Liau et al., 2008; Byrne et al., 2014; Symons et al., 2017).

Furthermore, the presence of gambling on the Internet and on diverse forms of digital media, in addition to adolescents' proficiency in using and accessing these media, have increased the level of younger people's exposure to remote gambling opportunities (Griffiths & Parke, 2010; King et al., 2010; Daria & Griffiths, 2012). Moreover, social networking environments can encourage adolescents into gambling, especially as the initiation may not involve real funds (Floros et al., 2013). Nonetheless, despite the existence of social networking, demo and free-play modes of gambling, there are studies reporting adolescents engaging with online paid gambling by using third-party credit cards (Griffiths, 2011). Although this risky behavior has often been reported, this area has been relatively under-researched, especially by including both perspectives of adolescents and parents in different countries (Livingstone & Haddon, 2008, 2009; Floros et al., 2013; Byrne et al., 2014). Floros et al. (2013) found that there are specific online risky activities associated with an increase in adolescents engaging in online gambling, such as watching pornographic materials. The researchers concluded that even though parents report engaging in Internet security measures, their safety practices had no significant impact on their children engaging in Internet gambling. However, parents' care correlates with lower levels of engagement with gambling, while overprotection correlates with higher levels of involvement with this activity. Additionally, literature shows that adolescent gambling has been associated to a greater extent with boys and that this activity can disrupt children's social and psychological development (Cho & Cheon, 2005; Floros et al., 2013). Hitherto, little is known about parents' awareness of their children's engagement with online gambling activities.

2.2 Reasons for Discrepancies on Parents' Knowledge on Adolescent's Online Behavior

While the existing dyadic studies show discrepancies when comparing parents' and their children's reports on adolescents' online risky behaviors and parental mediation (e.g. Liau et al., 2008; Symons et al., 2017), these discrepancies can be related to defense mechanisms, types of parental mediation, age, and gender, as well as to online and computer skills ascribed to family members.

2.2.1 Defense mechanisms

Defense mechanisms have been absent from previous empirical dyadic studies, despite being a phenomenon extensively explored in Psychology. In fact, this is an important aspect of children and adolescents' personality, and it is currently seen as a component of normal psychological functioning. Research advocates that the use of defense mechanisms changes over the different stages of development (Cramer, 1987; Vaillant, 1992). Three mechanisms of

defense have been proposed in the Psychology literature: denial, projection, and identification. Denial relates to the process of "ignoring or misrepresenting thoughts or experiences that would be upsetting if accurately perceived". Projection eliminates "disturbing feelings or thoughts" by ascribing them to others. The identification defense mechanism relates to a process of "change in the self to become more like a person or group" admired (Cramer, 2007: 2). Noteworthy, especially the use of projection mechanisms increases from early childhood to the period of late childhood (age 8) and adolescence (age 16), when it predominates. The use of defense mechanisms related to projection and identification are more common between the late childhood period and age 18 (Piaget, 1952). Moreover, a third-person effect has been identified and introduced in literature by Davison (1983). This effect posits that people tend to believe that they are less influenced by media compared to others, based on personal bias. This hypothesis has been extended to the Internet, denominated as "Web third-person effect", suggesting that the expectation of the impact that web media have on others impacts one's attitudes and actions (Antonopoulos et al., 2015).

While these feature have been largely absent from previous dyadic studies on adolescents online risky behaviors, Livingstone et al. (2011: 25) considered the "third person effect" in their EU study. The authors found that children were around "four times more likely "to express that there were things on the Internet that would bother other children than things that have bothered them personally. This result shows the relevance in asking adolescents what they believe their peers' behavior is, given that there may be a projection of negative effects onto others (Fields & Schuman, 1976).

2.2.2 Age and gender

The perspective of parents respecting the occurrence of specific adolescents' online risks can differ according to the adolescents' gender, parents' gender, and adolescents' age. For example, parents tend to underestimate problems experienced by older teenagers (Livingstone et al., 2011). In addition, significant differences were found for perceived content risks by parents (watching sexual and violent material online) considering the child's gender. Specifically, parents were more likely to know that their sons had watched online sexually-related materials than their daughters (Symons et al., 2017). Also, some studies have found that boys were more likely to experience content risks, while girls were more at risk for cyberbullying victimization (Beckman et al., 2013; Vandenbosch & Peter, 2016; Symons et al., 2017). Regarding parents' perceptions, Symons et al. (2017) found that parents' perspectives on adolescents' engagement in online risks were associated with gender, especially among fathers. Nevertheless, other studies reveal that a clear gender difference does not exist (Tokunaga, 2010).

2.2.3 Parental mediation: parents v. children

Parents have a vital role in mediating the relationship between youngsters and the new media (Livingstone & Helsper, 2008). Literature posits that parental mediation can be predominantly active or restrictive (Miyazaki et al., 2009). While active mediation relates to the process of discussing risks related to the use of the Internet and parental advising on how to avoid risks and maintain protection, restrictive mediation refers to practices that regulate or track children's Internet use (Ang, 2015). Symons et al. (2017) suggest that active mediation is more related to open parent-child communication as compared to a restrictive mediation, which has more in common to parental monitoring. Although some authors propose diverse subdivisions, Livingstone et al. (2011) distinguish between active mediation (e.g. open discussion concerning Internet use), restrictive mediation (setting rules

by limiting specific activities), monitoring (tracking records of the child's Internet use), and technical mediation (e.g. using filter software).

With regard to Internet safety communication, Cerna et al. (2015) advocate that active mediation increases the probability that the child discloses cyberbullying victimization issues, while restrictive mediation has no such effect, or is weakly related to youths' involvement in these cyberbullying risky behaviors (Elsaesser et al., 2017). Similarly, Byrne et al. (2014) found that if children consider the communication with their parents on online risks to be difficult, it is less likely that parents acknowledge worrying online approaches to teenagers by strangers. While more studies have highlighted active mediation strategies to be more effective as a protection from online risks, research has also stressed the protective factor of restrictive practices (e.g. Livingstone & Helsper, 2008; Lee, 2012). Cottrell et al. (2007) consider that Internet monitoring strategies, such as placing the computer in an open area, establishing time limits on the computer, using blocking software, and reviewing Internet site history can be seen as active methods of parental monitoring. However, these strategies were only associated with adolescents' behaviors when children acknowledged that their parents use these methods. Furthermore, Cottrell et al. (2007) point out that it is vital that children understand the rules for these to have an impact on their online behavior. Notwithstanding, literature notes that parents seem to overestimate the amount of parental supervision and communications regarding Internet safety that takes place at home (Liau et al., 2008; Symons et al., 2017).

2.2.4 Knowledge attributed to parents and older siblings

Some studies reveal that a skill-related gap between parents and their children exists and that adolescents usually consider themselves to be more knowledgeable regarding online and computer activities (Livingstone & Bober, 2004), especially older adolescents (Livingstone et al., 2011). Furthermore, the knowledge that adolescents attribute to their older siblings has been absent from literature, in spite the fact that siblings have the potential to exert a positive influence, whether related to monitoring or modeling, on younger children's online activities (Cottrell et al., 2007). Indeed, one important feature of families, which can impact the environment in which adolescents are raised, is the existence of siblings (Maholmes, 2018; Pearce et al., 2018). Accordingly, parents may select different strategies when many children live in a household. Additionally, educational and social marketing campaigns may address older adolescents to involve this group in assisting parents in the well-being of the youngsters, aiming to mitigate potentially harmful online behaviors and promote safe online consumption.

3. METHOD

To achieve the aforementioned goals, the present study relies on dyadic data extracted from reports of adolescents attending 7th to 12th grades, as well as of their parents (father or mother). This method allows for a more reliable comparison between parents' and their children's perspectives.

3.1 Procedure

A self-administered questionnaire was presented to both parents and their adolescent children (dyadic data) in four schools in the Central region of Portugal. Considering that the collection of multi-actor data is generally related to a high rate of non-response, this study uses a non-probabilistic sampling approach (Symons et al., 2017). Families were recruited with the assistance of the directors of classes from 7th to 12th grades (2011). Regarding

adolescents, the questionnaires were responded to in the classrooms in the presence of a teacher. The data collection was preceded by a written statement, and a consent form was signed by parents. For parents, the questionnaires were sent by mail, including the instructions, a stamp and a separate envelope which could be sealed and sent back by mail. By means of including a code on the back of all the questionnaires, the surveys were linked by household. The study protocol was approved by the ethics committee of the University of Porto. The adolescents' response rate was 97.4% and their parents' was 71.2%. There were 1016 paired-sample questionnaires validated.

3.2 Instrument

This study uses a self-administered survey approach, which was subjected to a pre-test. Questionnaires addressed to parents and adolescents included four groups of questions to assess respondents' perspectives of a) adolescents' online risky behaviors, b) the mediation strategies set by parents regarding their children's online activities, c) prevention actions that are believed to be more important regarding the maintenance of safety in an online environment, and d) adolescents' use of smartphones, SNSs, and sociodemographic information. Adolescents' questionnaires included also questions related to the knowledge that they attributed to their parents and older siblings regarding computer and online skills, the level of sharing their online activities with parents, as well as their perception regarding the risky behaviors in which their "friends" engaged in the past. Parents were additionally asked about the extent to which they believe to be aware of their children's online activities and the knowledge that they ascribe to their child (respondent to the questionnaire) regarding computer and online skills.

3.3 Measures

For measuring *online risks*, this study considered contact and content risks as distinguished by Livingstone and Haddon (2008), and empirically tested by others (see, e.g. Symons et al., 2017). Concerning contact risks, cyberbullying victimization, cyberbullying perpetration, and accepting friend's requests from strangers were assessed. In order to gain more detailed information, the medium through which the cyberbullying victimization was experienced was specified (SMS, SNS, Instant Messaging (IM), or email). A clarification on the concepts of cyberbullying victimization and perpetration was provided. Regarding content risks, watching violent content and sexually related materials were included. Considering that sharing photos showing defiant behavior, smoking or drinking alcohol at parties (own pictures or pictures from others) (Huang et al., 2014; Marwick & Boyd, 2014), as well as paid gambling (Cho & Cheon, 2005; Livingstone & Haddon, 2008; Floros et al., 2013), have been revealed in literature as risk-increasing online behaviors, three items were added to assess these online activities. In total, 11 items (Table 2) were assessed (*Cronbach Alpha*: parents= 0.855; adolescents= 0.810; adolescents' friends=0.861). For each item, the respondent was asked to indicate on a five-point Likert scale how often this has already occurred in the past, ranging from "never" (score 1) to "rarely", "sometimes", "often", and "very often" (score 5).

Parental mediation strategies were assessed through 12 items (Table 3) related to both restrictive (e.g. placing computer in an open area) and active mediation (e.g. talking openly about adolescents' online activities). Items were adapted from Cottrell et al. (2007) and Livingstone et al. (2011). One question was added to analyze if parents had already punished their children for not following rules as part of their mediation strategies. Response choices to these items were "yes", "sometimes", and "no." For the present analysis regarding both parents' and adolescents' perspectives of parental mediation strategies, the

category "sometimes" was merged with the category "yes" (*Cronbach Alpha*: parents= 0.729; adolescents= 0.696).

One general question regarding the extent to which parents (*I believe that I am aware of what my child does online*) and their children (*I share what I do online with my parents*) agree/disagree that adolescents share their online activities with parents was assessed (Table 4), respectively, through a 5 point-Likert scale anchored from 1 (totally disagree) to 5 (totally agree).

Aiming to assess the extent to which parents and adolescents have different perspectives regarding *prevention actions* that are believed to be more important regarding the maintenance of safety in an online environment, an open-ended question was included in the questionnaire for both parents and children regarding this topic.

The adolescents' perspective of their *family's knowledge* of computer and online skills (mother, father, and older sibling) compared to them was evaluated through a five-point Likert scale (Table 5), ranging from "nothing" (score 1) to "more than I do" (score 5). The perspective of parents of their child's knowledge regarding computer and online skills was assessed using the same scale.

3.4 Data Analysis Instruments

The paired samples T-test was used to determine whether the means between adolescents' versus parents' reports differ on their perspectives of adolescents' online activities and risky behaviors (Symons et al., 2017). The One-way ANOVA was utilized to determine whether there were statistically significant differences between the means of two or more independent groups. This statistical technique was used to analyze if the gender of parents and their children, as well as adolescents' school year (independent variables) significantly explain the perspectives of adolescents' risky online behaviors (dependent variable). The same technique was performed to analyze if adolescents' gender and school year (independent variables) significantly explained the adolescents' perspective regarding their family's knowledge (mother, father, and older sibling) compared to their own perceived knowledge. The One-way test was selected, considering that the dependent variables were assessed by an interval scale (1-5). The present study follows the line of research that advocates that Likert scales can be approached as interval scales and, therefore, they can be treated as metrics. According to literature, it is possible to develop arithmetic operations (such as averages) from a Likert measurement scale, provided there is a caution to ensure that the qualitative scale is constant, and can be assumed to have properties of interval scales (Lattin et al., 2003).

The McNemar's Chi-Square test was performed for testing differences in dichotomous variables (yes/no) between paired samples (McNemar, 1947; Symons et al., 2017). The Z test for two independent proportions was utilized to evaluate the extent to which parents and adolescents have different perspectives regarding prevention actions that are believed to be more important regarding the maintenance of safety in an online environment. The responses to the open-ended question were analyzed via content analysis. Categorization was performed with the automatic option of NVivo for word count, followed by a manual process of amalgamating words and expressions that were related to meaningful prevention strategies for safety in an online environment presented in earlier studies. This process was further verified by a second researcher.

Univariate descriptive statistics were used to analyze the profile of the sample and to calculate the averages, standard deviations and percentages regarding the different items included in the questionnaire. The software SPSS was used for data analysis.

3.5 Description of the Sample

There were 1016 paired-sample questionnaires validated. The sample included students from 7th to 9th grade (40.6%) and from 10th to 12th grade (59.4%). The average age for adolescents is 15.03 years old with a standard deviation of 1.847. The minimum age is 12, and the maximum is 19 years old. Girls represent 56.6% of the sample. Of the total of adolescents, 99.3% reported having a mobile phone and 44.2% having access to this device since the 5th year of schooling (about 10 years of age). Also, 90.2% of the adolescents that participated in the study reported having a Facebook account. The paired-sample concerning parents included 70.4% of mothers. Parents have a university degree (46.2%), followed by a post-graduation (24.4%), secondary school level (21.6%), primary school level (5.9%), and another level of education (2.0%). The average age is 46.44 years old with a standard deviation of 5.108. The minimum age is 30, and the maximum is 73 years old.

4. RESULTS

4.1 Online Risks

There is statistical evidence to conclude that adolescents use Facebook more (times per day) than is acknowledged by their parents M(parents)=1.84; M(adolescents)=5.02; T=-10.068; $p<0.01$). Furthermore, the average of adolescents' *friends* on Facebook is significantly different from that is reported by their parents (T=-2.840; $p<0.01$). On average, parents estimate that their children have 315 *friends*, while the children admit having, on average, 630 *friends*.

Table 2 shows that there are some significant differences with regard to the (greater) risk that parents consider their children take and what their children assume (smaller) in an online environment. In particular, parents believe that their children are more at risk of cyberbullying victimization via Internet channels (*M(parents)=1.16; M(adolescents)=1.10; T=2.684, p<0.01*), sharing own daring photos (*M(parents)=1.14; M(adolescents)=1.07; T=4.264, p<0.01*), and sharing daring photos of others (*M(parents)=1.16; M(adolescents)=1.10; T=3.098, p<0.01*). The exception when parents seem to underestimate the risks is regarding adolescents' contact to sexual-related content (*M(parents)=1.25; M(adolescents)=1.34; T=-2.893, p<0.01*). Although, on average, the level of risks is not very high, in some cases adolescents admit to having engaged on a repeated basis (excluding the item "never") in adding strangers to their online network (31.1%), and watching online violent content (29.1%) and pornographic materials (18.1%).

Notwithstanding, the online risks that adolescents report to be experienced by their' "friends" are statistically different from those they report to be experienced by themselves, as well as those acknowledged by their parents (at 1% of significance level). The results suggest that the reports of adolescents' online risky behaviors may be biased by defense mechanisms related to projection.

Table 2. Online risks: perspectives of parents, adolescents, and adolescents' "friends"

Online risk behavior (1-5)	Parents M(SD)	Adolescents M(SD)	*T (parents/ children)*	Adolescents's "friends" M(SD)	*T (parents'/ adolescents' "friends")*	*T (Adolescents'/ Adolescents's "friends")*
Cyberbullying victimization via SMS	1.19 (0.566)	1.15 (0.505)	1.975	1.36 (0.719)	-5.816**	-8.883**
Cyberbullying victimization (via SNS, IM, or email)	1.16 (0.518)	1.10(0.415)	2.684**	1.33(0.719)	-6.484**	-10.593**
Cyberbullying perpetration (via SMS or the Internet)	1.08 (0.402)	1.08(0.400)	0.113	1.28(0.647)	-9.040**	-10.774**
Adding strangers to the network	1.42 (0.730)	1.47(0.805)	-1.871	1.94(1.008)	-14.656**	-15.674**
Sharing own daring photos	1.14 (0.510)	1.07(0.342)	4.264**	1.36(0.790)	-7.484**	-12.183**
Sharing daring photos of others	1.16 (0.496)	1.10(0.446)	3.098**	1.50(0.871)	-11.055**	-14.300**
Sharing own photos showing smoking/drinking in parties	1.14 (0.493)	1.17(0.577)	-1.457	1.49(0.884)	-11.604**	-12.286**
Sharing photos of others smoking/drinking in parties	1.15 (0.507)	1.17(0.573)	-0.736	1.72(1.018)	-16.477**	-17.594**
Watching pornographic content	1.25 (0.608)	1.34(0.823)	-2.893**	1.83(1.166)	-15.011**	-16.071**
Watching violent content	1.42 (0.758)	1.40(0.853)	0.627	1.79(1.046)	-9.780**	-13.170**
Online paid gambling	1.07 (0.404)	1.10(0.475)	-1.868	1.51(0.931)	-14.855**	-15.456**

**p-value <0.001

Source: Own Elaboration

ANOVA tests suggest that the adolescents' reports mentioning that their "friends" engage in risky online behaviors may be associated in some cases with adolescents' gender and, to a greater extent, their age. Regarding female gender, there are more girls reporting that their friends experience bullying victimization whether via SMS (*M(male)*=1.27, *M(female)*=1.42; *F*=10.448, *p*<0.01), or via SNS, IM, and email (*M(male)*=1.22, *M(female)*=1.41; *F*=19.294, *p*<0.01), as well as sharing photos of others drinking or smoking at parties (*M(male)*= 1.59, *M(female)*=1.81; *F*=11.568, *p*<0.01). With respect to male adolescents, there are more boys expressing that their friends engage with violent (*M(male)*=1.94, *M(female)*=1.68; *F*=15.215, *p*<0.01) and sexually-related contents (*M(male)*=1.99, *M(female)*=1.74; *F*=11.943, *p*<0.01), as well as with online paid gambling (*M(male)*= 1.64, *M(female)*=1.42; *F*=13.976, *p*<0.01). Regarding age, all items measured are significantly associated with the school level of the respondent, with older adolescents (10th to 12th grades) mentioning that their friends are more engaged in online risks when compared to the reports of respondents attending 7th to 9th grades. All ANOVA tests performed were statistically significant at 1% level.

With respect to their own behaviors, adolescents' gender is statistically associated with the reports of engagement in online risks, where it is more likely that boys mention they are involved in cyberbullying perpetration (*M(male)*=1.13, *M(female)*=1.04; *F*=12.502, *p*<0.01), adding strangers to their network (*M(male)*=1.55, *M(female)*=1.42; *F*=5.975, *p*<0.05), sharing own daring photos (*M(male)*=1.10, *M(female)*=1.04; *F*=8.801, *p*<0.01), as well as daring pictures of others (*M(male)*=1.14, *M(female)*=1.07; *F*=6.756, *p*<0.01), interacting with sexually-based materials (*M(male)*=1.62, *M(female)*=1.13; *F*=94.463, *p*<0.01), watching violent content (*M(male)*=1.70, *M(female)*=1.18; *F*=101.768, *p*<0.01),

and engaging in online paid gambling ($M(male)=1.21, M(female)=1.02; F=42.468, p<0.01$). Apart from sending own daring photos ($F=1.331; p>0.05$), the reports of adolescents on all measures on online risks are statistically associated with age, with older adolescents (10th to 12th grades) mentioning that they engage more in online risks when compared to the reports of younger respondents (7th to 9th grades).

With respect to parental reports, adolescents' gender is statistically associated with parents' perceptions related with male adolescents' being involved to a greater extent in watching pornographic content ($M(male)=1.38, M(female)=1.16; F=33.325, p<0.01$) and violent materials ($M(male)=1.59, M(female)=1.30; F=39.115, p<0.01$), as well as engaging in paid online gambling ($M(male)=1.10, M(female)=1.05; F=4.974, p<0.05$). Parents' gender is statistically associated only with respect to fathers believing that their children are engaged to a greater extent with sexually-based content than mothers reported ($M(male)=1.33, M(female)=1.22; F=7.606, p<0.01$). With regard to adolescents' age, this variable is statistically associated with parental perception of their older children being more involved in sharing own pictures drinking or smoking at parties $M(7th\text{-}9th\ grade)=1.06, M(10th\text{-}12th\ grade)=1.20; F=19.750, p<0.01$), or photos of others showing the same type of behavior $M(7th\text{-}9th\ grade)=1.08, M(10th\text{-}12th\ grade)=1.21; F=16.175, p<0.01$).

4.2 Parental mediation

Parents report implementing higher levels of parental mediation than what is perceived by their children (Table 3). Regarding the strategies reported by parents, the most used is warning about Internet risks (95.4%), which is also the most reported strategy by adolescents (90.8%). Conversely, supervising texting by mobile phone (16.7%) and using blocking software (17.0%) are the strategies less popular for parents, regarding which teenagers are little aware (4.2% and 5.8%, respectively). Also, while 59.4% of parents claim to talk openly about online activities with their children, only 16.8% of adolescents believe this to happen.

Table 3. Parental mediation: parents vs. children

Parental mediation (yes/ no)	Parents (%yes)	Children (%yes)	McNemar's X^2
Limiting the time the child can use the Internet	37.5	18.6	91.953**
Monitoring the time the child spends online	35.0	17.2	85.050**
Placing the computer in an open area within the home	53.5	37.3	87.408**
Accessing to the Facebook and email passwords	18.5	7.7	67.226**
Using blocking software for certain web pages	17.0	5.8	59.458**
Warning about Internet risks warnings (inappropriate sites, instant messaging)	95.4	90.8	17.133**
There are some forbidden online activities	44.3	19.5	119.530**
Viewing website history on computer	33.0	6.5	160.444**
Supervision of texting by mobile phone	16.7	4.2	79.085**
Warnings for spending less time on the mobile phone and ending conversations	55.3	33.6	113.769**
Talking openly about adolescents' online activities	59.4	16.8	315.018**
The child was already punished for breaking the rules	39.4	20.3	77.235**

**p<0.001

Source: Own Elaboration

The gap between parents'/children's perspectives is reinforced by the fact that what parents believe they know about what their children do online (Table 4) is statistically

different from what adolescents admit sharing with their parents ($T=15.143$, $p<0.01$). In particular, parents report having more knowledge than what their children admit to telling them ($M(parents)=3.07$; $M(adolescents)=2.35$). Noteworthy is the fact that, in the sample, while 36.2% agree that they are aware of what their children do online, only 7.4% of parents are completely sure about this knowledge. Conversely, 56.3% of adolescents disagree or strongly disagree that they share their online activities with their parents. Concerning parental reports, the extent to which they agree/disagree that they are aware of what their child does online is statistically associated (ANOVA tests) with adolescents' age. Specifically, parents believe they are more aware of their younger child's online activities ($M(7^{th}-9^{th}$ grade$)=3.25$, $M(10^{th}-12^{th}$ grade$)=2.95$; $F=17.979$, $p<0.01$). Adolescents' gender ($F=0.001$, $p=0.976$) and parents' gender ($F=0.919$, $p=0.338$) do not statistically influence parents' reports regarding this variable.

Table 4. Parents' knowledge of adolescents' online activity (%)

	Totally disagree	Disagree	Do not agree or disagree	Agree	Totally agree	M(SD)
Parents *I believe that I am aware of what my child does online.*	5.3	33.1	18.0	36.2	7.4	**3.07** (1.094)
Adolescents *I share what I do online with my parents.*	30.6	25.7	25.9	14.0	3.8	**2.35** (1.162)

Source: Own Elaboration

4.3 Computer and online skills attributed to parents and siblings

Considering the 587 adolescents who responded to the knowledge that they attributed to both mother and father regarding computer and online skills, as well as to an older sibling, the respondents consider that their knowledge is superior to that of both parents (Table 5). Notably, the knowledge attributed to the father is statistically superior to that of the mother ($T=-4.265$; $p<0.01$). Nonetheless, this is still considered to be less than adolescents' self-knowledge ($M(father)=3.18$). The exception is the adolescents' older siblings, who are considered to have the same or greater knowledge ($M(sibling)=4.10$). The latter is statistically superior to that ascribed to both parents ($T(father/sibling)=-5.256$; $p<0.01$; $T(mother/sibling)=-19.520$; $p<0.01$).

Table 5. Computer and online skills attributed by adolescents to parents and older siblings (%)

Family's knowledge compared to adolescents' (1-5)	Nothing	Much less	Less	Same	More	M(SD)
Mother	6.6	31.2	28.1	26.2	7.8	**2.97**(1.075)
Father	7.2	26.1	24.9	25.9	16.0	**3.18**(1.191)
Older sibling	4.6	5.6	4.6	45.5	39.7	**4.10**(1.036)

Source: Own Elaboration

In Table 6, the One-way test shows that there is no influence of the adolescents' gender on the degree of knowledge attributed to their father and mother. Notwithstanding, girls consider older siblings to have more knowledge when compared to the perspective of the boys ($M(male)=3.86$, $M(female)=4.29$; $F=26.111$; $p<0.01$). The results also suggest that school year influences the knowledge that adolescents consider both mother and father to have, which is higher in the perspective of students attending 7th to 9th grades (M(regarding mother)=3.17, M(regarding father)=3.49), and lower (*M(regarding mother)* =

2.84, *M(regarding father)*=2.96) in the perspective of students attending 10th to 12th grades (*F(regarding mother)*=13.878, *p*<0.01; *F(regarding father)*=29.326, *p*<0.01). The adolescents´ school year does not significantly influence the level of knowledge that adolescents consider their older siblings to have (*M(7th-9th grades)*=4.08, *M(10th-12th grades)*=4.12; *F*=0.209, *p*=0.648). Notably, when asked what online-based knowledge parents attribute to their child (respondent to this questionnaire), 47% of parents expressed that their children have more skills than themselves. ANOVA tests showed that adolescents' age, adolescents' gender, and parents' gender are not significantly associated with this variable (*p*>0.05).

Table 6. Family's knowledge compared to the adolescents: adolescents' school year and gender

Variable	Father's knowledge					Mother's knowledge					Older siblings' knowledge				
	Sum of Squares	*Df*	*Mean Square*	*F*	*Sig.*	*Sum of Squares*	*Df*	*Mean Square*	*F*	*Sig.*	*Sum of Squares*	*df*	*Mean Square*	*F*	*Sig.*
School year															
Between groups	39.666	1	39.666	29.326	0.000	15.679	1	15.679	13.878	.000	0.224	1	0.224	0.209	0.648
Within groups	791.260	585	1.353			660.938	585	1.130			628.846	585	1.075		
Total	830.927	586				676.617	586				629.070	586			
Gender															
Between groups	0.106	1	0.106	0.075	0.784	1.905	1	1.905	1.656	0.199	26.984	1	26.984	26.111	0.000
Within groups	822.755	581	1.416			668.476	581	1.151			600.443	581	1.033		
Total	822.861	582				670.381	582				627.427	582			

Source: Own Elaboration

4.4 Prevention Actions: Parents versus Adolescents

At 1% of significance level, parents and adolescents have in general significantly different perspectives regarding prevention actions that are believed to be more important regarding the maintenance of safety in an online environment. Table 7 shows the main prevention actions mentioned at least by ten parents or adolescents. Notably, for adolescents (35.7%), "not talking to strangers" is the most important prevention action (*Z*=18.2612; *p*<0.01), while for parents (36.7%) "not disclosing personal data" is the most important preventive measure (*Z*=-15.8802; *p*<0.01).

Table 7. Main prevention safety actions in the online environment: parents vs. adolescents

Main prevention actions	% adolescents (absolute number)	% parents (absolute number)	Z test
Not contacting strangers	35.7% (363)	3.5% (36)	Z= 18.2612 *p*= 0.000
Not disclosing personal data (e.g. mobile phone number, address)	7.5% (76)	36.7% (373)	Z=-15.8802 *p*= 0.000
Privacy-preserving (e.g. not sharing too much on posts; not sharing intimate information)	2.9% (29)	14.5% (147)	Z=-9.3068 *p*=0.000
Only accepting "friend requests" from known persons	3.3% (33)	2.2% (22)	Z=1.5037 *p*=0.13362
Be careful with strange websites	1.1% (11)	1.4 (14)	Z=-0.6037 *p*=0.5485
Not sharing photos	1.1% (11)	1.4% (14)	Z=-0.6037 *p*=0.5485
Technical safety protection (e.g. anti-virus; changing user profile settings regularly)	1% (10)	3.5% (36)	Z=-3.8776 *p*=0.000

Source: Own Elaboration

5. DISCUSSION

5.1 Online Risks: The Discrepancies

This study found that there are discrepancies between parents' and their children's perspectives about adolescents' online risky behavior. However, unexpectedly, contrary to the findings of most earlier studies using a dyadic approach, in which parents underestimate their children's online risky behaviors (e.g. Dehue et al., 2008; Livingstone et al., 2011; Symons et al., 2017), in the context under analysis parents seem to overestimate some online risks taken by their children. These findings refer to cyberbullying victimization via the Internet, sharing their own daring photos, and sharing daring photos of others when compared to adolescents' reports. In our case, parents appear to underestimate the risk of contact only with sexually-related content. This latter finding is in line with previous research (e.g. Livingstone & Bober, 2004; Cho & Cheon, 2005; Liau et al., 2008), in which parents believe that their children engage to a lesser extent with this type of content. Noteworthy, Symons et al. (2017) found average lower discrepancies regarding cyberbullying experiences (both perpetration and victimization), as well as accepting *friend* requests from strangers when compared to watching pornographic and violent content (higher discrepancies). Regarding the remaining online risks analyzed there were no significant differences when comparing reports from parents and children. The cases of overestimation and of no apparent discrepancy in our study, such as related to cyberbullying, might be to some extent explained by the increasing focus on these forms of online risks in the media and prevention campaigns in schools in Portugal. Subsequently, parents may be more aware and concerned that their children had these online experiences. Furthermore, Sorbring (2014) identified a group of parents who worry the most, believing that their children engaged in online risks which were not reported by adolescents. Noteworthy, Livingstone et al. (2011) suggest that discrepancies are greater or less considering different countries and suggest that parents are becoming increasingly aware of online risks for adolescents.

However, when considering the defense mechanism effect, the online risks claimed to be experienced by adolescents' "friends" (reported by adolescents themselves) are greater and statistically significant in comparison to the risks reported by parents and their children. In this case, parents seem to underestimate the online risks under analysis. Although this mechanism has been absent from previous studies, when Livingstone et al. (2011) considered the "third-person effect", children reported that their "friends" of the same age would be bothered around four times more with something that they encountered in an online environment. The presence of this phenomenon may suggest that adolescents are projecting their risky behaviors onto others (Cramer, 1987). Another possible explanation is that adolescents may be assuming that their peers experience more risks than what they do in reality, which can potentially influence them to take more online risks based on the assumptions of peers' behaviors (Gardner & Steinberg, 2005; Antonopoulos et al., 2015). This idea is in line with the study from Sasson and Mesch (2014), which found that the greater the adolescents' belief that their peers support engaging in risky online activities, the greater the number of risks they were prone to engage with. Either way, the results of the present study suggest that adolescents may engage in more risks than they report.

5.2 Online Risks Reports: The Influence of School Year and Gender

Apart from sending own daring photos, the *reports of adolescents* regarding all types of online risks were statistically associated with age. Older adolescents (10th to 12th grades) mentioned that they engaged more in online risks when compared to the reports of younger respondents (7th to 9th grades). Regarding gender, ANOVA analyses showed that it is more likely for boys

to mention that they were involved in cyberbullying perpetration, adding strangers to their network, sharing own daring photos, as well as daring pictures of others, engaging with sexual materials, watching violent content, and engaging in online paid gambling, when compared with girls. Concerning *parental reports*, adolescents' gender is statistically associated with parents' perceptions related to male adolescents being involved to a greater extent in engaging with pornographic content and with violent materials, as well with paid online gambling. As for parents' gender, fathers are the ones believing that their children are more engaged with activities related to watching sexual content when compared to mothers. With regard to adolescents' age, this variable is statistically associated with the parental perception that their older children were more involved in sharing own pictures while drinking or smoking at parties, or photos of others showing the same type of behavior. Considering the *adolescents' reports regarding their friends' online behavior*, all online risks under analysis were significantly associated with the respondents' school level. In fact, older adolescents (10th to 12th grades) mentioned that their "friends" were more engaged in online risks compared to the reports of respondents attending 7th to 9th grades. There are also some gender-specific differences: girls reported that their "friends" engaged more in risks regarding cyberbullying victimization and sharing photos of others drinking or smoking in parties in the past; boys reported their "friends" were more involved in risks related to watching sexual and violent content, as well as with online paid gambling.

Our findings are consistent with the fact that older adolescents seem to be the ones engaging in more online risks and that parents are acknowledging this fact. This result is in line with previous studies concluding that older adolescents engage to a greater number of risky online activities when compared to younger students (e.g. Sasson & Mesch, 2014), and that parental knowledge and concerns on adolescents' risky behaviors vary according to adolescents' age (Sorbring, 2014; Symons et al., 2017). Also, the three perspectives (parents, adolescents, and adolescents' "friends") about adolescents' engagement in online risks are consistent with the fact that boys seem to be involved to a greater extent in watching violent and sexual content online, as well as being involved in online paid gambling. These findings are in line with research suggesting that boys are more likely than girls to engage in dangerous behaviors (Sasson & Mesch, 2014); in particular, engaging more with content risks (Beckman et al., 2013; Vandenbosch & Peter, 2016; Symons et al., 2017). However, while in our study boys expressed adding more strangers to their online networks compared with girls, and parents did not perceive that distinction, Sorbring (2014) identified that parents were more worried that girls (rather than boys) would contact dangerous people online. Moreover, despite the fact that in literature girls are depicted as posting more risky photos on social media than boys (Vanderhoven et al., 2014), in the current study boys reported engaging significantly more than girls in sharing pictures showing defiant behavior.

5.3 Parental Mediation Strategies

In this study, parents significantly reported setting more mediation strategies than what was perceived by their children (e.g. Symons et al., 2017). Regarding open-based communication, while 59.4% of parents claimed to talk openly about online activities with their children, only 16.8% of adolescents believed this to happen. Notwithstanding, even with relation to less popular strategies, such as supervising texting by mobile phone (16.7%) and using blocking software (17.0%), these approaches are not being acknowledged by youngsters (4.2% and 5.8%, respectively). This could mean that some of these restrictive-based parental mediation strategies are being performed without the knowledge of adolescents. While a combination of parental strategies seems to be used, a process which if including both warm and boundary-related approaches can be associated with adolescents engaging in fewer online negative

experiences (Rosen et al., 2008), the present results suggest that there are clear discrepancies between both groups' perspectives. While it is not possible to conclude the effect of these strategies in the adolescents' online behavior, literature stresses that for parental strategies to be effective it is key that adolescents be aware of these practices (Cottrell et al., 2007). This appears not to be the case in the present study.

The discrepancies between parents' and children's perspectives seem to be reinforced by the fact that what parents believe they know regarding what their children do online (Table 4) is statistically different from what adolescents admit sharing with their parents. Notably, while 52.8% of adolescents disagree or strongly disagree that they share their online activities with their parents, 34.0% of parents believe (agree), that they are aware of what their children do online. Additionally, only 6.9% of parents expressed being completely sure (completely agree) about this knowledge. Moreover, the extent to which parents agree/disagree they believe being aware of what their child does online is statistically associated with adolescents' age; in particular, parents believe that they are more aware of their younger child's online activities. This finding is in accordance with previous studies. For example, Livingstone et al. (2011) concluded that one in ten parents mentioned they do not know what their child does on the Internet. In this study, gender (parents and adolescents) did not statistically influence parents' reports regarding this variable, which is in accordance with Symons et al. (2017), who concluded that mothers did not have more accurate knowledge compared to fathers concerning their children's online risks.

5.4 Computer and Online Skills Attributed to Parents and Older Siblings

This study found that the level of online and computer skills adolescents attributed to their parents is significantly lower than what adolescents believe to be their skills. Although the knowledge ascribed to the father was statistically superior to that of the mother, this knowledge is still considered to be lower from the perspective of their children. The exception was the adolescents' older siblings, who were considered to have the same or greater knowledge, from the perspective of their younger siblings. This knowledge is statistically superior to that attributed to both parents. One-way ANOVA test showed that there is no influence of adolescents' gender on the degree of knowledge ascribed to father and mother. Conversely, the results suggest that school year influences the skills that adolescents consider both mother and father to have, which is higher in the perspective of students in 7th and 9th grades (younger adolescents). However, the student's school year did not significantly influence the level of knowledge that adolescents consider their older siblings to have. Accordingly, Livingstone et al. (2011) found that, on average, one-third of adolescents reported the statement "I know more about the Internet than my parents" was "very true" and one third expressed this to be "a bit true". Similarly, the researchers found that younger children were less likely to agree with this statement and gender was not considered an important factor regarding the differences among children. The most interesting finding is that, regardless of the school year, adolescents seem to ascribe more knowledge to their older siblings than to their parents. This seems to be in line with literature advocating that older siblings may play an important role in mediation strategies aiming to prevent risky online behavior targeted to adolescents. Accordingly, research stresses that a limitation of previous studies is related to the absence of variables such as the adolescents' birth order and the quality of sibling relationships (Symons et al., 2017; Maholmes, 2018), which some authors consider to be associated with adolescents externalizing and mitigating behavior problems (Feinberg et al., 2013).

5.5 Prevention Actions to Maintain Safety in an Online Environment

This study concludes that parents and adolescents have significantly different perspectives regarding the most important prevention actions that they believe to be key regarding the maintenance of safety in an online environment. For adolescents, not contacting strangers is the most important prevention action, while, for parents, not disclosing personal data, such as contact information, is the most important safety measure. Remarkably, in the adolescents' questionnaires, "adding strangers to the network" was found to be the online risk in which the level of engagement reported was higher when compared to other online risks: 12% of adolescents expressed having done this in the past on a repeated basis. Moreover, considering the potential defense mechanism effect, this behavior was also attributed to adolescents' "friends" as the online risk in which they engaged more frequently. Although this study cannot explain this apparent paradox, according to literature, adolescents feel that some practices developed in an online environment may be important for establishing their independence, which can be reinforced by a rebellion effect that can lead to not following safety practices that they may be aware of (Walrave & Heirman, 2011). In fact, despite their greater cognitive capacity compared to children, adolescents do not always engage in self-protection practices and may, therefore, take online risks (Robinson, 2016). Moreover, the meaning of "stranger" in the perspective of the adolescent may be different from that of adults'. Some authors stress that a substantial amount of adolescents are adding strangers to their online social networks (Vandoninck et al., 2011), which in part are "friends-of-friends", who are mostly strangers who adolescents never met face-to-face (Vanderhoven et al., 2014). This seems to be alarming, as recent research found that the larger the SNS network size and the more strangers in the SNS *friend* list, the higher is both adolescents' self-disclosure and posting regret, a process that can lead to negative emotional experiences and well-being. Conversely, having trustworthy friends in their SNS seems to lead teenagers to less post regret, according to Xie and Kang (2015).

Regarding parents, it is more likely for them to understand the notion of privacy in a more complex way, as well as the consequences of sharing personal information (Robinson, 2016). This idea can explain why parents consider not disclosing personal data as the most important preventive action to maintaining a safe online environment, in the current study. In fact, earlier research concluded that SNS users who were not concerned about personal privacy were more vulnerable to online harassment (Ang, 2015). Additionally, there are significant differences regarding the importance attributed to using technical prevention actions, such as regularly changing the SNS settings for stronger privacy protection, in which parents seem to consider this prevention measure more important than adolescents. However, in some cases, parents may feel that they do not have enough knowledge to assist adolescents in an online environment. In this particular study, when asked what knowledge they attribute to their child regarding online and computer skills, 44.7% of the parents admitted that their children would know more than themselves. Similarly, in previous studies, it was found that a significant percentage of parents expressed that they did not feel confident in helping their child to use the Internet safely (Livingstone et al., 2011). Hence, the relevance of the development of up-to-date literacy practices on new media and public campaigns aiming to support parents to guide their children online, as well as the involvement of diverse groups in these initiatives (Robinson, 2016), such as older siblings, as suggested above.

6. CONCLUSION

By applying a dyadic approach using reports from adolescents and their parents, this research offers good opportunities for exploring different perspectives between the two groups related to youngsters' behaviors regarding risky online activities, parental mediation strategies, and prevention actions. This line of research is valuable considering the increasing opportunities for accessing new media out of the home and on private devices, which makes parental mediation rely more on adolescents' disclosure (Symons et al., 2017).

This research found that the defense mechanism related to projection of behaviors onto others, which has been absent from previous studies, might be biasing adolescents' reports, a phenomenon that can prevent teenagers from not disclosing accurately risky online behaviors in which they engage with. Furthermore, considering that adolescents perceive their "friends'" behaviors as riskier, teenagers may believe their peers are more involved in potentially harmful online behaviors than themselves, an effect that literature advocates can influence youngsters' risk-taking and risky decision-making (Gardner & Parke, 2005). Moreover, considering that the older sibling is the only member of the family unit having the same or more online and computer skills as the adolescents', from the perspective of the youngsters, older siblings seem to be important in supporting parents in mediation strategies and future campaigns focused on online education and prevention behaviors addressed to adolescents.

Since the process of adding strangers to their network is an activity appealing to adolescents, prevention work should focus on the benefits of building a trustworthy network of friends in online social networks (Xie & Kang, 2015). Also, reports from both adolescents and parents are clear in that older adolescents are the ones engaging in riskier online activities that can be potentially harmful. Therefore, it is crucial to reinforce and clarify the role of safety practices in an online environment, by addressing adequate, up-to-date literacy and education about SNSs, not only to adolescents from early ages but also to parents. Indeed, in some cases, parents reported that their children have more online and computer skills than themselves. Moreover, parental mediation strategies should be made aware and explained to adolescents to be effective. Also, prevention and intervention strategies should be multi-systemic (Ang, 2015; Maholmes, 2018), by adopting a trust-related approach, in which different perspectives should be balanced aiming to mitigate potentially harmful behaviors while maximizing online consumption experience benefits and contributing to adolescents' well-being.

As limitations of this research, although the study acknowledges the role of older siblings as a protective factor aiming at safer Internet use by adolescents, this particular group was not included in the data collection. Subsequently, future research could analyze in-depth these relationships and the extent to which older siblings could be addressed in strategies aiming to mitigate adolescents' online potentially harmful behaviors, which include social marketing programs. Moreover, parents were addressed as one group and a triadic approach (adolescent, mother, and father from the same family) was not undertaken. However, a previous study using this approach concluded that there were no significant differences among father's and mother's knowledge about adolescents' online risks (Symons et al., 2017). Additionally, future research could address diverse family structures (Pearce et al., 2018). Secondly, the data were collected in only one region of the country, although the schools included in the research were public and diverse sociodemographic profiles were represented. Previous research considers this process to be adequate since existing literature advocates that adolescents' online experiences do not differ significantly among teenagers living in different regions of the country, whether rural or urban areas (Sorbring, 2014). Lastly, although for more complex concepts a definition was provided (e.g. cyberbullying

victimization), since this study used a self-administered approach, different conceptual understandings about online risks, parental mediation strategies, and prevention actions might have influenced responses in some cases. In future studies, a mixed approach by adding a qualitative component may help to clarify specific discrepancies among reports.

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