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## The role of industries’ environmental reputation and competitive intensity on sustainability marketing strategy: customers’ environmental concern approach

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The role of industries’ environmental reputation and competitive intensity on sustainability marketing strategy

Customers’ environmental concern approach

El papel de la reputación ambiental e intensidad competitiva en la estrategia de marketing sostenible
Acercamiento a la preocupación ambiental del cliente

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Abstract

Purpose – This paper aims to highlight a model of industry drivers (industries’ environmental reputation and competitive intensity) that affect the sustainability marketing strategy segmentation, targeting and positioning based on customers’ environmental concern and explore the circumstances under which such a strategy affects performance.

Design/methodology/approach – The authors examined 64 Iranian export companies, which adopted sustainability marketing strategies across seven different industries. Achieved data are analyzed using a structural equation model methodology.

Findings – The results indicate that industries’ environmental reputation is positively related to the sustainability marketing strategies based on customers’ environmental concern and leads to superior financial and market performance. They also posit that competitive intensity has no significant effect on sustainability marketing strategies.

Research limitations/implications – This study specifically examines the impact of industry drivers on sustainability marketing strategy and performance. Logically, there might be other factors affecting the sustainability or other value dimensions that are not addressed in this study.

Practical implications – This paper provides some understanding of how organizations strength their sustainability marketing strategy, and they have to consider what factors to adopt such...
strategy. This paper also facilitates a better understanding of the customers’ needs and concern as a factor influencing sustainability marketing strategy adoption and implementation. Identifying the customer segmentation and market targeting based on the industry’s environmental can lead to the business will normally tailor the marketing mix (4Ps) with the needs and expectations of the target in mind.

Originality/value – This paper strengthens the effect of environmental concern of customer to understand what influences the success of the sustainability marketing adoption and implementation by investigating the most influential factors such as industries’ environmental reputation and competitive intensity.

Keywords Sustainability, Marketing strategy, Industry, Environmental impact, Customers, Environmental concern, Competition intensity, Export, Financial performance, Market performance

Paper type Case study

Resumen

Propósito – Este artículo pretende poner de manifiesto un modelo de impulsores de la industria (reputación ambiental e intensidad competitiva de las industrias) que afecta a la segmentación, orientación y posicionamiento de la estrategia de marketing de sostenibilidad basada en la preocupación ambiental de los clientes y explora las circunstancias en las que dicha estrategia afecta al rendimiento.

Diseño/metodología/enfoque – Se han examinado 64 empresas exportadoras iraníes que adoptaron estrategias de marketing sostenible en siete industrias diferentes. Los datos obtenidos se analizan utilizando SEM.

Resultados – Los resultados indican que la reputación ambiental de las industrias se relaciona positivamente con las estrategias de marketing sostenibles basadas en la preocupación ambiental de los clientes y conlleva un rendimiento financiero y de mercado superior. También se afirma que la intensidad competitiva no tiene un efecto significativo en las estrategias de marketing sostenible.

Limitaciones/implicaciones de investigación – Este estudio examina específicamente el impacto de los impulsores de la industria en la estrategia y el rendimiento de marketing sostenible. Lógicamente, podría haber otros factores que afecten a la sostenibilidad u otras dimensiones de valor que no se abordan en este estudio.

Implicaciones prácticas – Se analiza cómo las organizaciones fortalecen su estrategia de marketing sostenible y tienen que considerar qué factores adoptar en dicha estrategia. Este artículo facilita también una mejor comprensión de las necesidades y preocupaciones de los clientes como un factor que influye en la adopción e implementación de la estrategia de marketing sostenible. La identificación de la segmentación de clientes y el mercado basado en el entorno ambiental de la industria puede llevar a que el negocio adapte su marketing mix (4Ps) teniendo en cuenta las necesidades y expectativas del público objetivo.

Originalidad/valor – Esta investigación refuerza el efecto de la preocupación ambiental del cliente para comprender qué influye en el éxito de la adopción e implementación del marketing sostenible al investigar los factores más influyentes, como la reputación ambiental y la intensidad competitiva de las industrias.

Palabras clave – Sostenibilidad, Estrategia de marketing, Industria, Impacto medioambiental, Clientes, Preocupación ambiental, Intensidad de la competencia, Exportación, Rendimiento financiero, Rendimiento de mercado.

Tipo de artículo – Estudio de caso

1. Introduction

Sustainability has become strategically important due to the dramatic growth of environmental problems and public awareness of these crises at the global level (Leonidou et al., 2013). The term sustainability refers to development that meets current
needs without undermining the ability of future generations to meet their needs (UNGA, 1987). Companies are especially more willing to explore the possibility of environmental issues in their business practices, as the adverse effects of their activities on the environment are deniable. The importance of this topic has given rise to an enormous amount of research in the past, which has shown companies must adopt sustainability in their marketing strategy to survive (Leonidou and Leonidou, 2011). Integrating marketing strategies with customer needs and demands is one important principle that has been addressed in previous research (Crittenden et al., 2011). Another principle goes beyond specifying the needs of customers and shows that companies should create a relationship with customers in their marketing strategies, which is beneficial to the companies, society and the environment (Kumar et al., 2013). This is difficult, however, as there are many different customers with specific needs and demands. Companies are likely to encounter problems in integrating marketing strategy (Kotler and Armstrong, 2001).

To address this issue, a common theme across many marketing studies is to define the characteristics of environmentally conscious (“green”) customers for segmentation purposes. There are two problems with this theme. First, although most companies adopt sustainability to engage green customers, Kardash (1974) stated that all customers are potentially green customers, arguing that if two products are identical in every way, but one is less damaging to the environment, most customers would select the green one. Second, multiple studies have concluded that companies must focus on the perceptions of customers about green issues, rather than their identifiable characteristics, when adopting a sustainability marketing strategy (SMS). Companies adopting sustainability measures should focus on the elements of marketing strategy (segmentation, targeting and positioning) based on the green perceptions of their customers.

While a few marketing studies have explored the drivers of marketing strategy elements, they focused mainly on the factors that encourage companies to enter adopt SMS (Leonidou et al., 2013; Zeriti et al., 2014; Leonidou et al., 2015). In a broader view, marketing strategy involves using the marketing programs as a basis for a business to segment the market, target customers and develop a positioning strategy. Unfortunately, there is no shortcut to understanding customers and knowing how to serve them better. To tackle this issue, Belz and Peattie (2012) suggested that by screening sustainability actors and issues, companies can better understand sustainability situations. These companies are then able to identify when certain sustainability problems interest the public and how it will affect the behavior of their customers. To the best of our knowledge, understanding the forces that help companies adopt and plan SMS (in line with customer perceptions) is limited. Hence, we strive to provide answers to the following research questions to help fill these voids in the literature:

**RQ1.** How and under what conditions can companies fulfill customer expectations in adopting SMS?

**RQ2.** What are the effects of implementing SMS on financial performance and the market?

By providing answers to these questions, we aim to contribute to the marketing strategy literature in the several ways. With the recent rise of SMS research, several studies have reviewed the role of customers in marketing strategy with a focus on customer
environmental sensitivity and concern (Rivera-Camino, 2007). According to this study, customers may have a strong influence on adopting SMS, but not all customers have the same influence (Henriques and Sadorsky, 1996). Consequently, the heterogeneity within customer groups has not been well studied in previous research (Wu and Ma, 2016). A few studies, especially that by Banerjee et al. (2003), studied whether environmental impact and competitive intensity in one industry where moderated by the influence of the environmental concerns of customers. They explained that many customers across markets are sensitive to sustainability issues and their sensitivity is altered by the impact of different industry activities on the natural environment. Thus, our study first tries to extend previous environmental strategy research and by evaluating the environmental reputation of industries as a factor that influence companies SMS adoption.

Another factor that influences the input of customers is competitive intensity and the activities of rivals over sustainability issues (Leonidou et al., 2013). Despite the environmental reputation of certain industries, the sustainability practices of competitors can change customer expectations, mandating companies to adopt further resources and capabilities to address these concerns (Banerjee et al., 2003). Companies in high competitive intensity industries are more likely to face many different customer groups (Leonidou et al., 2010). This study is novel in assessing the industry drivers that can lead to better outcomes, related to the behavior of different customers in segmentation, targeting and positioning of company strategy. According to performance literature that indicate both market targeting and marketing program elements directly affect performance (Menguc et al., 2010), we also posit that correctly recognizing customers and markets that contribute to a better implementation of marketing strategy elements, particularly in the sustainability context, lead to better performance. Hence, this study provides insightful views for companies to reach appropriate outcomes by further developing existing performance research results.

In this article, we will first review the literature covering SMS. We will tend present a conceptual model and a set of research hypotheses. These hypotheses will be examined through the data analysis. Finally, we will discuss the conclusion and present recommendations for further work.

2. Literature review
2.1 Contingency theory

Contingency theories have been a significant part of the management literature for the past 20 years. These theories were developed and accepted because they responded to criticisms that the classical theories advocated for “one best way” of organizing and managing. Contingency theories proposed that the appropriate organizational structure and management style were dependent upon a set of “contingency” factors, usually the uncertainty and instability of the environment. Contingency theories were developed from the sociological functionalist theories of organization structure, such as the structural approaches to organizational studies by Chenhall (2003).

Contingency theory studies postulate that organizational performance is the consequence of a relation between two or more factors. As the integration of corporate sustainability into strategic management is dependent upon internal and external drivers (Engert et al., 2016), not all companies can effectively adopt SMS through a single best method. Factors that drive sustainability can change the process and organizational structure of marketing strategies. Effective marketing strategies should be developed in accordance with internal and external factors (Maletic et al., 2018; Zeriti et al., 2014). Previous studies have merely used variables such as industry type and company size as moderating factors to explain the relationship
between sustainability-related practices and performance. We therefore studied the relationship between an industry’s driving factors (as an external factor, e.g. environmental reputation and competition intensity) and a company’s capabilities marketing strategy (e.g. targeting and segmentation based on the background research and contingency theory). The environmental reputation and competitive intensity of an industry are two contingency factors that will have an impact on the environmental concerns of customers. These two factors can lead to the development of an appropriate marketing strategy (with regard to segmentation and targeting) and ultimately affect the performance of marketing strategies.

2.2 Sustainability marketing strategy
Marketing is about satisfying and building profitable relationships with customers. A marketing strategy, however, should reflect its corporate strategy and objectives (i.e. vision, mission and values) (Varadarajan, 2010). The market in which a company operates influences their marketing strategy, but a company also depends on the relationships that exist with their customers (Ansary, 2006). According to Slater and Olson (2001), marketing strategy is aimed at segmenting, targeting and positioning depends on markets and customers to develop an appropriate marketing mix, which allows companies to reach their goals.

The scope of marketing strategy research is divided into domestic and international sections. Domestic research has featured corporate environmental strategies (Menguc et al., 2010), corporate social responsibility strategies (Torugsa et al., 2012), environmental culture and orientation (Menguc and Ozanne, 2005) and green marketing strategies (Fraj et al., 2009). Domestic sustainability research has established valuable new concepts such as “enviropreneurial” marketing (Menon and Menon, 1997) and market-oriented sustainability (Crittenden et al., 2011). Such research has examined the macro and micro environmental differences between home and export markets, along with their effects on SMS adoption (Katsikeas et al., 2006; Crittenden et al., 2011; Zeriti et al., 2014; Leonidou et al., 2015).

2.3 Antecedents of the sustainability marketing strategy
Sustainability literature has focused more on external and internal factors that obliged companies to adopt sustainability in their strategies. The external factors that were found to encourage such eco-friendly behavior include customer environmental sensitivity, competitive pressures, regulatory intensity (Langerak et al., 1998), market turbulence (Baker and Sinkula, 2005) and customer stakeholders (Kirchoff et al., 2011). Internal precursors of the environmental marketing behavior emphasized environmental consciousness of markets, business sensitivity toward environmentalism (Langerak et al., 1998), integration of enterprise functions and top management support (Pujari et al., 2004). An effective method mentioned in most studies is the importance of market and customer segmentation, as well as the role of competition in SMS. Our study focuses on the importance of adopting a marketing strategy (segmentation, targeting and positioning) about customers’ perceptions. Extending this logic, we posit that holistic SMS decisions include market-targeting aspects, given that the process of identifying and selecting customers can be critical to successfully developing groups of customers prone to sustainability-related marketing appeals (Menon et al., 1999). Recently, Garay et al. (2017) noted that sustainability approaches might be more successful in achieving behavior change when they are adapted to the absorptive capacity and learning styles of their target audiences. The few studies have also captured targeting elements, such as market and customer segmentation (Diamantopoulos et al., 2014), as well as the role of competitive intensity relationship to performance (Leonidou et al., 2002).

In segmentation, understanding the different categories of customers and their behavior helps identify their orientation toward sustainability and the style of their sustainable
actions. When people are informed about social, ethical and environmental issues, they consume products in a manner that compliments those views. Moreover, every customer has a unique orientation about each product. However, in business, positioning is the orientation a customer has about a product in his/her mind and when compared to alternatives from competitors on the market. Sustainable business commonly finds unique positions such as sustainable, green, ecological or ethical products that in essence give an image to their customers about who they are. These strategies are used by sustainable marketers to gain a competitive advantage in the mind of customers in different situations, depending on the industry or the kind of sustainable products being offered.

The approach of different customers toward sustainability issues has led to the failure of sustainability projects or the imposition of higher costs on companies, which eventually lead to poor performance (Menon et al., 1999). Prothero (1990) stated that the environmental reputation of an industry plays a vital role in creating and changing the environmental preferences of customers. Thus, our model generalizes industries’ environmental reputation by segmenting customers to adopt an appropriate SMS, which should lead to superior performance. The environmental impact of industry educates the public and creates awareness about sustainable consumption, effectively promoting the interest of the public in environmental issues and social justice. This is done by having a dual focus, whereby a company communicates about itself to involved customers while presenting a sustainable solution as an alternative to conventional ones (Belz, 2006). In this situation, companies can gain the trust and credibility of customers (Ottman, 2001).

Moreover, with the development and expansion of sustainability around the world through globalization, significant competition among companies has emerged to enter the sustainability concept. As a result, companies are motivated to address sustainability issues or increase their degree of involvement to increase market share (Jaworski and Kohli, 1993; Leonidou et al., 2017). Menon and Menon (1997) stated that high competition intensity leads to the tendency of companies to enter the sustainability debate. In explaining their findings, Menon and Menon (1997) expressed that the intensity of competition is signified by a larger number of suppliers and therefore a larger number of options for customers. For companies to operate in these highly competitive markets, innovative strategies such as SMS are necessary for success (Tsai and Liao, 2017). Furthermore, Leonidou et al. (2010) have shown that in this situation, customers increase their monitoring and have more concerns. The sustainability activities of companies must respond to these concerns so that their sustainability activities are more likely to be accepted by the growing number of customers. For example, customers who were more sensitive to environmental issues were more willing to accept companies’ sustainability activities (e.g. high prices for eco-friendly products) and as a result, contributed to the growth of sales and profits of the companies (Leonidou et al., 2010).

2.4 Consequences of the sustainability marketing strategy
Performance of SMS adoption has been investigated (Hultman et al., 2009; Katsikeas et al., 2006; Zeriti et al., 2014) from two aspects: financial and market. The results have shown that superior market and financial performance have always been dependent on the compatibility between SMS and competitive advantage. Specifically, companies oriented toward sustainability should identify and develop specific capabilities to implement practices that are a source of competitive advantage in a market increasingly conscious and attentive to sustainability issues (Annunziata et al., 2018).

Prior studies have also focused on the link between competitive intensity and SMS performance (Menon and Menon, 1997; Katsikeas et al., 2006; Zeriti et al., 2014; Leonidou et al., 2015). Obtained results indicate there is no consensus in this regard. On the one hand,
the competitive intensity is a motivating factor for companies to enter sustainability issues (Jaworski and Kohli, 1993), and has a positive outcome for the companies’ sustainability activities (Leonidou, 2017). Companies have to try to overtake their competitors and address customers’ environmental demands by investing in sustainability issues. On the other hand, the competitive intensity has imposed more costs on companies since they need to increase sustainability activities (Menon et al., 1999). This issue serves as a barrier to companies, even though studies indicate a positive correlation between the competitive intensity and SMS (Leonidou et al., 2015; Grewatsch and Kleindienst, 2017). Both approaches identified number, features and activities of competitors, as well as the level of customers’ environmental awareness, as factors affecting the SMS outcome.

3. Hypotheses
SMS is discussed within the environmental consequences framework. This process includes segmentation, targeting and positioning of customers and competitors with respect to the well-being of the natural environment and society, to provide outcomes that satisfy organizational and individual objectives (Leonidou et al., 2013). Prior research shows that SMS involves engaging a company in sustainability segmentation procedures (e.g. using customer attitudes toward sustainability as a criterion for market analysis), sustainability targeting practices (e.g. launching products in markets that cater to the needs of environmentally and societally conscious customers), and sustainability positioning policies (e.g. positioning the company as sustainable in the market) (Zeriti et al., 2014). From the literature review and the importance of customer’s environmental approach in SMS elements, we hypothesize that two sets of contingency factors influence the degree of customer’s environmental concern: industries’ environmental reputation and industries’ competitive intensity.

3.1 Industries’ environmental reputation and sustainability marketing strategy
Environmental reputation of industries refers to the effect they have on the natural environment. Subsequently, the public concern of customers is different due to the environmental impact of such industries (Prothero, 1990; Banerjee et al., 2003). Actually, industry’s reputations for environmental responsibility are based on information available to customers. According to this information, customers are demanding more environmentally friendly corporate behaviors in industries with high environmental impact, rather than others. In this respect, groups have been formed to act on environmental issues, which have had a significant effect on companies’ sustainability activities (Kotler and Armstrong, 2001). Companies are required to implement environmental activities according to the concern and needs of customers to survive and be profitable (Kotler and Armstrong, 2001).

The sustainability literature has suggested that low adaptation approaches fail when companies neglect to identify clearly defined and delineated customer segments (Henriques and Sadorsky, 1996; Wu and Ma, 2016). Sustainable market segmentation is considered one way companies can evaluate the intensity of environmental concern individuals have (Ansary, 2006). By identifying sustainable market segments, factors such as the environmental awareness of customers, their ideas and feelings, and their living practices must be taken into consideration (Wu and Ma, 2016; Weinstein, 1997). In essence, customers are likely to focus on environmental impact of industries as a basis for their conclusions (Christmann, 2004). Differences in customer tastes and preferences among industries necessitate the deployment of marketing strategy segmentation and targeting. Extending this logic, as the environmental approach of the customer is highly related to the level of natural resource consumption of specific industries and their potential the irreparable damage to the environment, companies
can segment and target customers by considering the environmental reputation of their industry. Thus, we put forward the following hypothesis:

\[ H1. \] The environmental reputation of an industry has a positive relation to the adoption of SMS by export companies.

### 3.2 Industries’ competitive intensity and sustainability marketing strategy

Competitive intensity is another factor that plays an important role in SMS adoption. This is the degree to which a company faces competition and the intensity of the sustainability-related moves they employ (within a specific industry) (Leonidou et al., 2013; Jaworski and Kohli, 1993). Under conditions of high competitive intensity, customers have the opportunity to choose products from a large number of companies, some of which can be differentiated by environmental marketing aspects (Menon and Menon, 1997). Customers can also easily switch from one company to another with a more environmental-friendly perspective (Tsai et al., 2008). In this regard, studies show that intense competitive pressures will increase the amount of sustainability marketing, while low competition will create a state of complacency toward environmental matters (Leonidou et al., 2013; Menon et al., 1999).

Other studies, however, have argued that competition intensity acts as a barrier to the sustainability activities of companies (Christmann, 2004). One issue occurs when sustainability activities are imitated by competitors, so that the sustainability efforts of the original company do not make a significant difference (Christmann, 2004). On the other hand, competitive intensity imposes more costs on companies due to more competitive activities (Menon et al., 1999). Therefore, companies should allocate more resources and capabilities in their sustainability strategies to address the needs and wants of customers.

Unlike the results of previous research, which have focused on the role of competitive intensity on companies entering the sustainability field, we posit a new theory related to the role of competitive intensity when adopting SMS. Companies face distinct groups of customers that are sensitive and more aware of environmental problems. These conditions provide an opportunity for companies to increase their market share by segmenting and targeting them. Therefore, we put forward the following hypothesis:

\[ H2. \] Industries’ competitive intensity has a positive relation to the adoption of SMS by export companies.

### 3.3 Sustainability marketing strategy performance

Performance is a multi-functional concept and includes effectiveness and adaptability dimensions (Walker and Ruekert, 1987). Company performance refers to achieving the goals in competitive and financial fields. Two important measurements of performance are through market and financial thresholds. Market performance refers to the results of investment, number of customers, return on sales, and market share in target markets. Financial performance refers to the financial results of costs, and profits in the investment market reflecting return on capital (Morgan et al., 2004). SMS can minimize waste, eliminate sustainability-related risks and promote cost savings; help strengthen relationships with customers and improve company’s image and reputation among them (Fraj et al., 2009); and enable the company to target new market segments,
customer satisfaction, encourage repeat purchase of goods and attract new buyers (Banerjee et al., 2003), which can contribute to a higher market share (Baker and Sinkula, 2005).

The results of the study have shown that enhancing the benefit side of customer value and improving companies’ image and reputation in the markets are the benefits of adopting SMS, which increases market share (Miles and Covin, 2000). Financial results are also obtained through higher sales and profits. Miles and Covin (2000) stated that superior market and financial performance are obtained under certain circumstances, when effective customer segmenting and targeting complies with the needs of customer and wants in the market.

Industries’ environmental reputation provides valuable information about customers, which is beneficial when adopting an effective SMS. Marketing strategy literature has suggested that managing and implementing marketing strategies compatible with customers’ needs and preferences has a substantial impact on the survival and growth outcomes of companies (Ansary, 2006). Hence, we posit that the industries’ environmental reputation as a decisive factor to adopt SMS might provide higher sales, market share and profits from better exploitation of different customer requirements. Industries’ competitive intensity also enhances the customer enthusiasm toward the environmental activities of companies (Menon and Menon, 1997). The number of customers who care about environmental issues will be increased, and they are more willing to pay for the eco-friendly products and accordingly companies have better opportunities to segment customers (Leonidou et al., 2013). In summary, depending on the industry, companies can recognize customers and markets, which contribute to better planning and implementing of a marketing strategy’s elements, and obtaining better performance. Thus:

\[ H3. \text{ Adopting SMS based on customer and market environmental concern improves the company’s financial performance.} \]

\[ H4. \text{ Adopting SMS based on customer and market environmental concern improves the company’s market performance.} \]

4. Conceptual framework
Figure 1 presents the conceptual framework of this study, which includes impressive factors (industries’ environmental reputation and competitive intensity), SMS (segmentation, targeting and positioning) and performance (financial and market performance). We presented four hypotheses related to the proposed structure. This model identifies the
relationships between industries’ environmental reputation and SMS (H1), the relationships between industries’ competitive intensity and SMS (H2), the positive relationship between SMS adoption and financial performance (H3) and the positive relationship between SMS adoption and market performance (H4).

5. Background interviews and measurement approach
We arranged seven interviews of 60 to 90 min with export managers of each selected industries who were familiar with sustainability marketing practices of their companies and industries. The aim of the interviews was to investigate the studied factors and to evaluate the concepts and activities of the exporters. These interviews complemented our literature review and helped us develop a comprehensive set of measures covering critical dimensions of SMS. The interviews indicated that companies do not implement similar marketing strategies across markets and that inter-market variation was common, even among companies that tended to adopt more SMS. They also confirmed that related export managers were better positioned to provide information on SMS practices and performance and have sufficient knowledge of the company’s market conditions and strategies. The interviews also helped us reinforce the assumptions and relationships discussed in our conceptual model, and to make them meaningful as well as the measures used by respondents were understandable. Hence, we used multi-item measurements for the entire study structure, which is visible in Appendix.

In this empirical study, we extracted scales and prepared modified scales based on the literature review and field interviews to prove research hypotheses and evaluate questions from relevant literature (SMS indexes are listed in Table I). We modified the three-item scale by Banerjee et al. (2003) research to evaluate the role of industry’s environmental reputation on customers’ environmental concern. The impact of industry’s activities on the environment, the opinion of customers about the industry, and the effect of industry’s activities on the level of customers’ environmental demands are explored. The three-item scale was also used to evaluate the role of industry’s competitive intensity on customers’ environmental concern (Leonidou et al., 2013; Banerjee et al., 2003). We examined the number of competitors and their sustainability activities as a consequence of the customers’ environmental needs in the industry. To create an appropriate scale for evaluating SMS based on customer and market concern, we used strategy elements to examine the impact of industry action. We examined the

<table>
<thead>
<tr>
<th>Variables</th>
<th>Description</th>
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<tbody>
<tr>
<td>Sustainability marketing strategy</td>
<td>Sustainability marketing strategy involves engaging a company in sustainability segmentation procedures, sustainability targeting practices and sustainability positioning policies</td>
</tr>
<tr>
<td>Industries’ environmental reputation</td>
<td>Industries’ environmental reputation refer to the effect they have on the natural environment</td>
</tr>
<tr>
<td>Industries’ competitive intensity</td>
<td>Industries’ competitive intensity is the degree to which a company faces competition and the intensity of the sustainability-related moves they use within a specific industry</td>
</tr>
<tr>
<td>Market performance</td>
<td>Market performance refers to the results of investment, number of customers, return on sales and market share in target markets</td>
</tr>
<tr>
<td>Financial performance</td>
<td>Financial performance refers to the financial results of costs, and profits in the investment market reflecting return on capital</td>
</tr>
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**Table I.** Sustainability marketing strategy indexes
target market, market positioning and market segmentation. Finally, we used a three-item scale from Zeriti et al. (2014), which was achieved selectively and according to the connection rate with the research subject.

To review each financial and market performance, a five-item scale was used. In this regard, we examined the company’s profit, sales, investment, and investment return for financial performance. To measure market performance, we evaluated the number of customers, customer retention, customer satisfaction and sales growth that has come from new customers. These scales came from Leonidou et al. (2015).

The questionnaire is made up of a seven-point Likert scale (1 = very low, 7 = very high). The questionnaire measures the involvement of companies in export as well as the level of individuals’ awareness about companies’ participation in investment activities and their knowledge about companies’ sustainability activities. To handle this, we ask about two topics to determine the level of their involvement and awareness: 1. a company’s participation in investment activities of the market; and 2. their knowledge about the company’s sustainability activities. We ignored the questionnaires with a score of less than four per question. After removing those questionnaires, the specific score was obtained for the quality of conscious individuals in our study that were equal to \( n = 178 \). An acceptable rate of 86 per cent reflects the validity of key individuals’ information.

6. Method
Data were collected by distributing a survey to targeted people by human resource (HR) managers in each company. To test these hypotheses, a target population of Iranian export companies within seven manufacturing industries where SMS was applied were consulted. We chose these industries because they were experienced in SMS and because conditions were present that allowed the level of the industries’ environmental reputation and competitive intensity to be investigated. The included industries include food products, beverages, textiles, chemicals, petrochemicals, rubber and plastic products, and household equipment. Various industries and multi-industry research projects increased the diversity of responses, so that we could examine different views for assessing the impact of an industry’s role in the SMS. With large and sufficient sample sizes, we are able to analyze and increase our empirical findings. To make our goals comparable, we disregarded exporters in service industries, state exporters and exporters who had no active operations in exports investment within the past three years.

The questionnaire was introduced with a phone call to inform the participant about the study and its objectives. In implementing this process, sampling was done based on a series of steps. First, all 64 export companies were contacted through phone calls. The phone calls revealed that 64 companies were qualified and the key person to help implement the questionnaire in each company was their respective HR manager. It was stated that the names and identities of the participants and their organizations would remain confidential and would never be revealed. It was also explained that participation was voluntary, and participants could stop participating in the study at any time. Then, the survey package was sent by mail to each company’s HR manager, and who distributed questionnaires among the participants (export managers, marketing managers and sales directors) who have participated in export SMS. Then, three weeks after mailing the first package, they received a second phone call and package containing a reminder and a thanks letter was sent to those who had not responded through HR managers. Two weeks later, a final letter was sent to those who had not responded. After receiving the gathered questionnaires by the key person of
each companies, we encoded and filed them according to the date of their receipt. Finally, 234 people from 64 companies were chosen as participants. Among the 234 returned questionnaires, the number of usable responses was 178, and 56 questionnaires were dropped because of considerable missing data. Therefore, the effective response rate was approximately 76 per cent. In addition, we tested for nonresponse bias. The use of Armstrong and Overton’s (1977) nonresponse test, in which answers of early respondents are compared with those who responded late, revealed no statistically significant difference between the two groups regarding the study variables.

In the final sample, the accountability of the export sales managers was 34 per cent, executives 12 per cent, marketing managers 16 per cent, financial controller’s/support manager’s/quality managers 9 per cent and directors of sales was 29 per cent. In addition, the average year of the individuals’ activities in export companies was 14 years, while 64 per cent worked in their respective companies for more than five years (Table II). The range of 64 sample companies in seven manufacturing industries is largely comparable to the relative size of these industries in the whole sampling template. In these industries, 71 per cent of the responding exporters focused on the industrial products category, and 29 per cent of the exporters focused on customer end products. Most of the market of exports investment countries are in Europe (26 per cent), Asia (48 per cent), America (8 per cent) and Africa (17 per cent). The mean duration of exports investment was 14.7 years (Table III). The samples were mainly from small and medium-sized companies, with an average number of full-time staff of 50 people.

7. Results
In this research, a structural equation model within EQS software based on elliptical reweighted least-squares (ERLS) was used for assessing the validity and relevance of

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Response rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Export Sales Managers</td>
<td>34</td>
</tr>
<tr>
<td>Sales Managers</td>
<td>29</td>
</tr>
<tr>
<td>Marketing Managers</td>
<td>16</td>
</tr>
<tr>
<td>Executives</td>
<td>12</td>
</tr>
<tr>
<td>Financial Controller/Support Managers/Quality Managers</td>
<td>9</td>
</tr>
</tbody>
</table>

**Note:** The average year of activities in export companies was 14 years, 64% worked for more than 5 years

<table>
<thead>
<tr>
<th>Continents</th>
<th>Export investment countries rates %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia</td>
<td>48</td>
</tr>
<tr>
<td>Europe</td>
<td>26</td>
</tr>
<tr>
<td>Africa</td>
<td>17</td>
</tr>
<tr>
<td>America</td>
<td>8</td>
</tr>
</tbody>
</table>

**Note:** The average year of exports investment was 14.7 years
the measures in the conceptual model (Stump and Heide, 1996). ERLS is an evaluation method that assumes multivariate elliptical distribution. Multivariate normal distribution was also evaluated with maximum likelihood (ML). The ML estimation procedure assumes multivariate normal distribution, while the ERLS technique adopts a multivariate elliptical distribution (Mohr and Sohi, 1996). The main reason for applying this method was to assess the structural models and to validate measurements to recognize normal data and abnormal data. In general, ML provides more reliable results than ERLS across normal and non-normal data, and for this reason, it was preferred (Sharma et al., 1989).

Due to a large number of structural and estimated parameters related to the sample size, a computational model was applied (Hair et al., 2011) (Table IV). In the confirmatory factor analysis, we restricted each item to load a priori specified factor, while allowing the underlying factors to correlate. This revealed that all factors loaded highly on their assigned constructs (Anderson and Gerbing, 1988). Also, the goodness-of-fit estimation of the proposed model was acceptable.

Fit statistics: $\chi^2 = 127.87, p = 0.00, \chi^2/df =1.64, NFI = 0.97, NNFI = 0.99, CFI = 0.99, RMSEA = 0.07$.

All factors have composite reliability values and Cronbach’s alphas constants of larger than 0.70. This indicates the reliability of the theoretical structure as an element in the structural model (Bagozzi and Yi, 1988). In addition, the convergence validation is acceptable. The T-value is larger than 4.0 for each parameter, the standard loading value is approximately 0.5, and all the estimated standard errors of the coefficients are very low (Hair et al., 2011).

The validation or the breakdown value, which is a confidence interval of convergence evaluation for each pair of studied structures, was observable and never 1.0. The difference between finite and infinite models of existing $\Delta \chi^2$ for each joint structure was considerable ($\Delta \chi^2 (1) \cdot 3.84; \rho \cdot 0.05$) (Anderson and Gerbing, 1988). Fornell and Larcker (1981) showed that focusing attention to assess the discriminant value; the AVE was compared by the shared variance for each structure. The AVE value is between 0.63 and 0.81 and a composite reliability (CR) of at least 0.60 is considered desirable (Bagozzi and Yi, 1988; Fornell and Larcker, 1981) (Table IV). The maximum-shared variance is 0.64. This value is between the financial performance and environmental reputation and also between market performance and environmental reputation. Table V shows a criterion for discriminant values between study structures.

In this study, the possibility of common method bias was evaluated from two perspectives. First, a single factor Harman test (Podsakoff and Organ, 1986) was applied to each items of the questionnaire, which included analysis of the main components with varimax rotation. Twelve factors with a specific value greater than 1.0 were produced by non-rotational factors, revealing 68 per cent of the variance. Second, a factor authentication method was applied in loading a single-factor test. The model fit indices revealed poor values, well below the commonly acceptable cutoff points ($\chi^2 = 276.38, p = 0.00, \chi^2/df =1.98, NFI = 0.98, NNFI = 0.99, CFI = 0.99, RMSEA = 0.08$). The results of the two examinations showed common method bias, but this is not a concern in this study.

We also estimated a computational method to test the assumed connections between the structures. Due to sample size limitations, we applied a cost-effective approach with composite scores as an indicator of any hidden variables (Bagozzi and Heatherton, 1994). A suitable structural model was then defined. The path coefficients as well as the T-values corresponding to the structural model are shown in Table VI.
Table IV. Measurement models and summary statistics

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Scale items</th>
<th>Standardized loadings</th>
<th>t-value</th>
<th>α</th>
<th>p</th>
<th>AVE</th>
<th>Mean score</th>
<th>SD</th>
<th>Mean score of items</th>
<th>SD of items</th>
<th>Composite reliability (CR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industries' environmental reputation</td>
<td></td>
<td></td>
<td></td>
<td>0.92</td>
<td>0.89</td>
<td>0.81</td>
<td>5.11</td>
<td>1.18</td>
<td>5.21</td>
<td>1.12</td>
<td>0.82</td>
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<td></td>
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<tr>
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<tr>
<td>IEN3</td>
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<td>5.27</td>
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<tr>
<td>Industries' competition intensity</td>
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<td>0.91</td>
<td>0.78</td>
<td>5.06</td>
<td>1.23</td>
<td>5.17</td>
<td>1.29</td>
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<tr>
<td>ICI2</td>
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<tr>
<td>ICI3</td>
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<td>SMS</td>
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<td>0.91</td>
<td>0.77</td>
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<td>1.32</td>
<td>4.66</td>
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<td>0.92</td>
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<td>SMS2</td>
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<tr>
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<td>7.26</td>
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<td></td>
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</tr>
<tr>
<td>Financial performance</td>
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<td>0.91</td>
<td>0.87</td>
<td>0.63</td>
<td>4.71</td>
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<td>4.59</td>
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<tr>
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<tr>
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<td>EFP4</td>
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<td>EFP5</td>
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<td></td>
</tr>
<tr>
<td>Market performance</td>
<td></td>
<td></td>
<td></td>
<td>0.91</td>
<td>0.89</td>
<td>0.68</td>
<td>5.76</td>
<td>1.41</td>
<td>5.93</td>
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<td>0.91</td>
</tr>
<tr>
<td>EMP1</td>
<td>0.71</td>
<td>*</td>
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<tr>
<td>EMP2</td>
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</tr>
<tr>
<td>EMP3</td>
<td>0.83</td>
<td>6.12</td>
<td></td>
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</tr>
<tr>
<td>EMP4</td>
<td>0.89</td>
<td>7.26</td>
<td></td>
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<tr>
<td>EMP5</td>
<td>0.92</td>
<td>7.46</td>
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</tbody>
</table>

Notes: Fit statistics: $\chi^2 = 127.87, p = 0.00, \chi^2/df = 1.64, NFI = 0.97, NNFI = 0.99, CFI = 0.99, RMSEA = 0.07$
In relation to industries’ environmental reputation \((H1)\), a positive relationship between industries’ environmental reputation and SMS adoption based on customers’ environmental concern was obtained \((b = 0.36, t = 3.74, p = 0.01)\). Previous studies emphasized that customer concern has an important role in planning the SMS (Leonidou et al., 2013; Wu and Ma, 2016) and Prothero (1990) stated that customers’ environmental sensitivity is changed by industries’ actions. Therefore, companies can achieve an effective SMS by segmenting and targeting customers related to industries’ environmental reputation. A positive relationship industries’ competitive intensity with SMS adoption based on customers’ environmental concern is not significant \((H2)\), \((b = 0.37, t = 1.74, p = 0.07)\). Although previous studies showed that when the competition is fierce, companies are more successful than their competitors having adopted a sustainability business practices (Menon and Menon, 1997), our finding shows that this relation does not exist directly. An acceptable reason is that this serves as a barrier to companies by imposing more costs for developing more activities. In addition, sustainability activities imitating could be done by competitors in the competitive markets (Menon et al., 1999).

Consistent with previous studies (Baker and Sinkula, 2005; Leonidou et al., 2013), in \(H3\), we found an improvement of financial performance due to the selection and adoption of SMS based on customer and market environmental concern \((b = 0.31, t = 3.27, p = 0.04)\). Moreover, Menon et al. (1999) and Leonidou et al. (2015) showed that an appropriate SMS could lead to the creation of good economic results for companies.

We found that the selection and adoption of SMS based on customer and market environmental concern \((H4)\) leads to the improvement and development of companies’ market performance \((b = 0.32, t = 3.36, p = 0.00)\). Previous studies also showed the positive impact of the selection and adoption of SMS on market performance (Baker and Sinkula, 2005; Leonidou et al., 2013). Due to the global public concerns, companies create publicity and increase their market share by applying environmental issues to their marketing strategies, thereby surpassing their competitors and improving their market performance.

### Table V. Correlation matrix

<table>
<thead>
<tr>
<th>Constructs</th>
<th>AVE</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Industries’ environmental reputation</td>
<td>0.81</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Industries’ competitive intensity</td>
<td>0.78</td>
<td>0.57</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 SMS</td>
<td>0.77</td>
<td>0.37</td>
<td>0.36</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Financial performance</td>
<td>0.63</td>
<td>0.64</td>
<td>0.48</td>
<td>0.33</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5 Market performance</td>
<td>0.68</td>
<td>0.64</td>
<td>0.48</td>
<td>0.33</td>
<td>0.22</td>
<td>1</td>
</tr>
</tbody>
</table>

**Notes:** Correlations greater than 0.18 are significant at the 0.01 level; Correlations greater than 0.15 are significant at the 0.05 level

### Table VI. Structural model results

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Hypothesized path</th>
<th>Standardized path coefficient (B)</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>(H1)</td>
<td>Industries’ environmental reputation → SMS adaptation</td>
<td>0.36</td>
<td>3.74</td>
<td>0.01</td>
</tr>
<tr>
<td>(H2)</td>
<td>Industries’ competitive intensity → SMS adaptation</td>
<td>0.37</td>
<td>1.74</td>
<td>0.07</td>
</tr>
<tr>
<td>(H3)</td>
<td>Adopting SMS → Financial performance</td>
<td>0.31</td>
<td>3.27</td>
<td>0.04</td>
</tr>
<tr>
<td>(H4)</td>
<td>Adopting SMS → Market performance</td>
<td>0.32</td>
<td>3.36</td>
<td>0.00</td>
</tr>
</tbody>
</table>

**Notes:** Fit statistics: \(\chi^2 = 127.87, p = 0.00\), \(\chi^2/df = 1.64\), NFI = 0.97, NNFI = 0.99, CFI = 0.99, RMSEA = 0.07
8. Discussion and conclusion

This study highlights the instrumental role of industry (environmental reputation and competitive intensity) forces in sensitizing companies to the deployment of a proper SMS. Exploring the factors that encourage companies to enter the sustainability field has been widely discussed in the literature. Simply put, a growing number of different external and internal factors have given companies many different ways to adopt proper SMS. Recently, the contingency approach and fit between the sustainability activities and different factors have been highlighted in the field of sustainability (Pryshlakivsky and Searcy, 2017). This raises the question of whether companies should use different sustainability practices depending on particular situational factor to achieve superior results. To answer this question previous studies explored drivers of marketing strategy’s elements by focusing on the factors that encourage companies to adopt SMS (Leonidou et al., 2013; Zeriti et al., 2014; Leonidou et al., 2015). However, understanding the forces that help companies plan and calibrate the marketing strategy’s elements in line with customers’ characteristics, needs and demands are limited.

The environmental effects of industry activity and the environmental act of companies are considered important factors that change the needs and wants of customers. So that industry’s environmental reputation is a key issue that need to be taken into consideration when designing SMS because they can seriously affect companies’ operations in related industry. This industry feature boosts the efficiency of classifying customers. We found that catering to the needs of customers about the natural environment and addressing people’s environmental complaints all necessitate the adoption of SMS. In line with previous studies, we surprisingly found competitive intensity like responding to competitors’ movements, and finding points of difference from competitors has not significant effect on marketing strategy adaptation (Hultman et al., 2009; Katsikeas et al., 2006). It would be interesting to investigate further this unexpected finding and consider competitive intensity as a moderator factor.

Although research has often cited that the effects of public concern on adopting SMS, our study reveals that industries forces such as environmental reputation change the customers’ concern and preferences. Considering industries’ environmental reputation leads to better segmenting, targeting and positioning to adopt SMS, and consequently companies can improve their market and financial performance. Assessing the industries drivers to recognize different customers’ behavior in segmentation, targeting and positioning of companies’ strategy leads to better outcomes.

This article has also shown that the market and financial performance of companies lead to better outcomes when they have been arriving at sustainability issues by Prothero (1990) customers’ environmental concern. The positive effects to the market and financial performance by adopting these strategies are encouraging for companies that intend to be successful in the markets. Such an alternative strategy is a viable option to boost business in a very hostile and diverse environment. However, according to Leonidou et al. (2015), who found a negative effect on performance, there will be the opposite effect if SMS is not aligned with customers’ needs and wants. This not only reduces the market and financial performance, but companies’ sustainability activities will fail.

The evidence reported here reinforces the contingency theory that SMS adaptation is positively linked to performance. This study provides a contribution to the literature on corporate sustainability performance by confirming that industries’ drivers such as environmental reputation, can shape the link between marketing strategy elements and performance. Even though prior literature has discussed the link between sustainability practices and economic performance (Schrettle et al., 2014), this study further explores the
role of contingency factors in the relationship between sustainability practices and wider organizational performance dimensions.

9. Managerial implications
By considering the result of this study, managers should realize that the appropriateness of a particular sustainability export marketing strategy depends on significant knowledge of the customers. Also, we discovered industries’ drivers that managers should take into account when they are trying to plan their SMS. Export companies need to be able to analyze the related industries’ environmental reputation for targeting the customers based on their preferences. While the level of public concern could be different among customers and also could be changed by industries’ behavior, companies need to broaden their focus by calculating the fit among customer concern, industries’ environmental reputation and marketing strategy.

In customer segmentation, managers can divide consumer or business market, normally consisting of existing and potential customers, into groups of individuals that are similar in specific ways, which have been influenced by the industry’s environmental reputation. Additionally, selecting the proper target market is a complex and difficult decision for managers. However, gaining deep insights into the typical consumer’s motivations and type of shared characteristics lead to assist with making this decision. In this case, companies and managers can identify the proper target market after segmenting customer by the available information about the industry’s environmental reputation. Once the target market has been identified, the business will normally tailor the marketing mix (4Ps) with the needs and expectations of the target in mind. Finally, they can place a brand occupies in the mind of the customer and make their products different from competitors.

The results confirm the positive relationship between SMS based on customer and market environmental concern and companies’ performance. We wish to emphasize to managers the need to implement sustainability practices as a way to foster both the market and financial performances of such strategies. Companies' long-term success depends on efficiency and adaptability of their strategies. Concerning the goals, we suggest that managers consider the way that customers act about environmental issues, so that they can manage such goals and perform better.

10. Limitations and future work
The findings of this study confirm the results of other research in the area of sustainability and marketing strategies, but this study also suffers from limitations. This study specifically examines the impact of industry on SMS and performance. Logically, there might be other factors affecting the sustainability or other value dimensions that are not addressed in this study. This limitation can be due to the lack of sufficient studies in the field of sustainability and the developmental nature of this phenomenon. This is a complex issue and covers the cognitive aspects of the corporate decision-making process. In this study, primary evidence related to the relationship between the factors affecting sustainability and SMS was presented, but understanding the growing issue require examination of companies, which are responsible to economic and social issues. It is necessary to investigate the interaction between industries’ and companies’ activities and SMS in the economic and social context.

It should be noted that our samples were limited to a certain group of the population in a specific geographic location. Testing the external validity of the findings will be of particular importance when the studies are conducted in other countries with different economic, cultural, social, political and legal conditions. Another limitation of this study is
due to the studied samples. Among 2,500 participants who were considered to have attended the study, only 208 surveys were presented. Non-respondents might have a different sense of the sustainability values than the respondents. Therefore, the findings of this research cannot be generalized to other cases because different results might be achieved.

Finally, the data were analyzed using a repeated measures design, which could have its disadvantages. Subjects might get better performance in doing a specific task over time, or their performance might worsen because of fatigue and malaise. Some subjects may leave the research before the end of the sequence of interventions, and the sample group may become smaller. Data collection nature could also influence the data generalization.

Other potential effects of external factors (such as the legal context) and internal factors (such as market orientation) are to create at SMS that reinforces our model. In addition, the compatibility of the companies in moderating the relationship between the creation of a strategy and national strategies should be examined. Moreover, each of the markets should be examined as the adaptation rate of the strategies or based on their adoption idiosyncrasies (Christmann, 2004).

Studies should also investigate the moderating role of customers’ and markets’ characteristics in the relationship between SMS and performance. The possible role of different options of strategy that are available for each company such as the focus on the market versus the expansion of sustainability business strategies formation should also be considered. Finally, it is suggested that futures studies examine the possible role of factors related to the characteristics of the company and management and their potential effect on the structures and the relationship between our models.

References


Customers’ environmental concern approach


### Appendix

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Items</th>
<th>Item description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Industries’ environmental reputation</strong></td>
<td>IEN1</td>
<td>Our industry is famous for polluting the environment</td>
</tr>
<tr>
<td></td>
<td>IEN2</td>
<td>Our customers expect our industry to be environmentally friendly</td>
</tr>
<tr>
<td></td>
<td>IEN3</td>
<td>Our customers are increasingly demanding environmentally friendly products due to the environmental industry’s activities</td>
</tr>
<tr>
<td><strong>Industries’ competition intensity</strong></td>
<td>ICI1</td>
<td>The number of competitors in our industry is high</td>
</tr>
<tr>
<td></td>
<td>ICI2</td>
<td>Competition in relation to sustainability issues is very high among competitors in our industry</td>
</tr>
<tr>
<td></td>
<td>ICI3</td>
<td>Our customers are increasingly demanding environmentally friendly products due to the high environmental competitors’ activities</td>
</tr>
<tr>
<td><strong>Sustainability marketing strategy</strong></td>
<td>SMS1</td>
<td>Customers’ environmental considerations in our market segmentation procedures</td>
</tr>
<tr>
<td></td>
<td>SMS2</td>
<td>Customers’ environmental considerations in our market targeting approach</td>
</tr>
<tr>
<td></td>
<td>SMS3</td>
<td>Customers’ environmental considerations in our market positioning approach</td>
</tr>
<tr>
<td><strong>Financial performance</strong></td>
<td>EFP1</td>
<td>Corporate profit through sustainability marketing strategy</td>
</tr>
<tr>
<td></td>
<td>EFP2</td>
<td>Corporate sales through sustainability marketing strategy</td>
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<td></td>
<td>EFP3</td>
<td>Corporate return on sales through sustainability marketing strategy</td>
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<td>EFP4</td>
<td>Corporate return on investment through sustainability marketing strategy</td>
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<td></td>
<td>EFP5</td>
<td>Corporate return on capital through sustainability marketing strategy</td>
</tr>
<tr>
<td><strong>Market performance</strong></td>
<td>EMP1</td>
<td>Rate of acquiring customers through sustainability marketing strategy</td>
</tr>
<tr>
<td></td>
<td>EMP2</td>
<td>Rate of maintaining customers through sustainability marketing strategy</td>
</tr>
<tr>
<td></td>
<td>EMP3</td>
<td>Rate of sales increase by customers through sustainability marketing strategy</td>
</tr>
<tr>
<td></td>
<td>EMP4</td>
<td>Customer satisfaction through sustainability marketing strategy</td>
</tr>
<tr>
<td></td>
<td>EMP5</td>
<td>Customer loyalty through sustainability marketing strategy</td>
</tr>
</tbody>
</table>

**Table A1.**

Scales of constructs

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The moderating influence of involvement with ICTs in mobile services

La influencia moderadora de la implicación con las TICs en los servicios móviles

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Abstract

Purpose – The growing availability of wireless internet services and the great popularization of smartphones and other mobile devices means a greater challenge for mobile service companies that need to identify the factors influencing the use behavior of mobile services. So considering that the level of consumer involvement can lead to differences in service outcome evaluations, this study aims to examine whether consumer involvement with information and communication technologies (ICTs) has a moderating influence on consumer behavior in mobile services.

Design/methodology/approach – The authors propose an integrative model of the usage of mobile services to examine the moderating role of involvement with ICTs. Drawing on a sample of 493 users, two levels of involvement with ICTs were examined; and data were analyzed through multiple-group structural equation modeling.

Findings – Findings show that the level of consumer involvement with ICTs influences the behavior in the mobile services. Further, the findings support that mobile services’ perceived quality, followed by the service perceived value are the factors with a stronger influence in satisfaction with mobile services, regardless the level of consumer involvement with ICTs. However, the mobile company corporate image has a lower influence. In addition, the results support the partial moderating role of involvement with ICTs in the loyalty toward mobile service providers, suggesting that consumers lowly involved with ICTs experience a greater impact of the service quality on their loyalty.

Originality/value – The main contribution of this study is the examination of the influence of involvement with technologies in consumer behavior in the mobile services.

Keyword Mobile services, Involvement, Information and Communication Technologies (ICTs), Consumer behavior

Paper type Research paper

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Resumen

Propósito – La disponibilidad creciente de los servicios internet inalámbrico y la gran popularización y adopción de los smartphones y de otros dispositivos móviles supone un gran desafío para las compañías de servicios móviles que necesitan identificar aquellos factores que influyen en el comportamiento de uso de los servicios móviles. Así, considerando que el nivel de implicación del consumidor puede llevar a diferencias en las evaluaciones de los resultados de los servicios, este estudio analiza si la implicación del consumidor con las tecnologías de la información y la comunicación (TICs) tiene una influencia moderadora en el comportamiento del consumidor en los servicios móviles.

Métodología – Se propone un modelo integrador sobre el uso de los servicios móviles para examinar el rol moderador de la implicación del consumidor con las TICs. Sobre la base de una muestra de 493 usuarios, se analizaron dos niveles de implicación con las TICs; y los datos fueron analizados mediante un modelo multigrupo de ecuaciones estructurales.

Resultados – Los resultados muestran que el nivel de implicación del consumidor con las TIC influye en su comportamiento hacia los servicios móviles. Además, nuestros resultados respaldan que la calidad percibida de los servicios móviles, seguida del valor percibido de estos servicios son los factores con mayor influencia en la satisfacción con los servicios móviles, independientemente del nivel de implicación del consumidor con las TIC. Sin embargo, la imagen corporativa de la compañía de servicios móviles tiene una influencia menor. Adicionalmente, nuestros resultados muestran el rol moderador parcial de la implicación con las TIC en la lealtad hacia los proveedores de servicios móviles, sugiriendo que los consumidores poco implicados con las TIC experimentan un mayor impacto de la calidad del servicio en su lealtad.

Valor – La principal contribución de este estudio es el análisis de la influencia de la implicación del consumidor con las tecnologías, en su comportamiento hacia los servicios de comunicación móvil.

Palabras clave – Servicios móviles, Implicación, Tecnologías de la Información y la Comunicación (TICs), Implicación, Comportamiento del consumidor.

Tipo de artículo – Trabajo de investigación

1. Introduction

The population of mobile service users runs over several million today. Likewise, the telecommunications service industry is one of the most important sectors, with revenues exceeding US$2tn and a 4 per cent growth rate over the past five years (International Telecommunication Union, 2015). Regarding the Spanish mobile communication industry, the number of mobile subscriptions account for 51.5 million of contracts in year 2016 (Comision Nacional de los Mercados y la Competencia, 2017), being Movistar and Vodafone the mobile service providers with the highest market share.

The reason is that the growing availability of wireless internet services, the increasing demand and the popularization of the smartphones and other mobile devices have created a great market for mobile service companies. In fact, smartphones and mobile devices have become communication devices integrated into everyone’s daily life (Kuo et al., 2009), being exponentially adopted by users today. In this increasingly competitive market, the mobile service providers are trying to attract new customers and retain the current ones (Kim et al., 2004), and the ability to provide a high level of user satisfaction is a key issue to differentiate mobile communication services from competitors and enhance customer loyalty (Deng et al., 2010). One critical issue for the success of mobile service providers is their capability to retain their current customers and make them loyal (Aydin and Özer, 2005; Zhou, 2011). Likewise, technology is increasing exponentially and involves many of today’s products. Information and communication technologies (hereafter ICTs) became an integral part of the lives of people, improving their quality of life, being used for the fulfillment of various purposes such as entertainment, work, leisure or social relationships; similarly, mobile communication services such as mobile banking or mobile shopping are powered by the advances in ICTs.

Identifying the factors that influence the level of actual use of a technology has been perceived essential to make the adoption of a given technology more attractive (Baabdullah
et al., 2018), and one of these factors is the level of consumer involvement. As ICTs become increasingly sophisticated, they have a greater capacity to encourage user involvement; in addition, the individual level of involvement can act as a powerful motivation toward belief related to ICTs, having great explanatory power in use behavior (Barnes et al., 2019).

However, considering that the consumer involvement can lead to perceived differences in service outcome evaluations, to date, the research on the user involvement with ICTs and its influence on the mobile service behavior has been scarce. The great majority of prior research on ICT mainly relates to the acceptance of ICTs and to behavioral aspects such as the computer-related experience, emotional aspects or cognitive aspects, like computer knowledge or computer self-efficacy (Durndell and Haag, 2002). Therefore, while the acceptance toward technologies and their use has been broadly studied in previous research, there is scarce research on the potential moderating influence of consumer involvement with ICTs. In this context, and based on the heuristic-systematic information processing model proposed by Chaiken (1980), we will examine the moderating effect of the involvement level on the mobile services’ context.

In the present study, we assume the term involvement with ICTs as the degree to which an individual is involved with technologies, likes and looks forward to learn about technologies. Accordingly, we propose and examine the potential moderating influence of the level of the consumer involvement with ICTs in the creation of satisfaction and loyalty with mobile communication services. Therefore, the major contribution of the present paper is the analysis as a potential moderating variable of a user-based attribute – the level of consumer involvement with ICTs – in the mobile communication service behavior.

The present article is structured as follows. First, in Section 2 we provide a literature review of the theoretical framework and the conceptual model and the research hypotheses are proposed. Then, Section 3 presents the methodology. Next, in Section 4, the results are presented and discussed. Finally, some conclusions and implications for researchers are proposed in Section 5.

2. Conceptual framework and research hypotheses

2.1 The use of mobile communication services

Besides conventional mobile services that include voice and text-messaging, recent mobile services include a wide array of applications and value-added services (Wang et al., 2019), attracting customers for their applications that meet the customer needs.

Previous research shows that one of the main outputs in user behavior is satisfaction. User satisfaction could be conceptualized as an experience-based overall evaluation made by the user on whether the expectations of the services obtained from a provider have been fulfilled; or as the assessments made by the customer regarding the value drivers related to the consumption experience (Eshghi et al., 2007). In the mobile communication services context, the user satisfaction reflects the degree of an individual’s positive feeling for a mobile service provider (Deng et al., 2010). Therefore, when the user has a good experience with a mobile communication service provider, he/she will develop greater levels of satisfaction (Deng et al., 2010; Wang et al., 2019). More precisely, the user satisfaction with mobile services has been related to the quality of communications, the high value for money, the customer services provided and the convenient procedures, along with the mobile provider meeting users’ personal needs (Gerpott et al., 2001). Consequently, in our study, we will define customer satisfaction as the overall user perception when using mobile communication services.

2.1.1 Mobile service perceived value. Perceived value could be defined as the consumers’ cognitive tradeoff between the perceived benefits of a given service and the monetary cost for using it (Venkatesh et al., 2012). Similarly, perceived value is closely related to satisfaction (Sweeney and Soutar, 2001). Other authors, such as Im et al. (2015), note that perceived value can be approached through two dimensions – utilitarian and hedonic value. More precisely, in the
context of mobile services, the utilitarian value is closely related to the efficiency, resulting from the use of a particular service in accomplishing an everyday task, and thus, perceived value could be considered utilitarian and instrumental in nature (Li and Mao, 2015). On the other hand, hedonic perceived value could be considered as resulting from the fun and pleasure derived from the use of mobile services (Li and Mao, 2015). Similarly, in the mobile services sector, recent studies consider that both components are interrelated; consequently, perceived value could be defined as a multidimensional variable derived from the consumption or usage experience (Deng et al., 2010). In this line, Kuo et al. (2009) define the mobile service perceived value as the evaluation of the benefits of the service by users, based on their advance sacrifices and ex post perceived performance when they use mobile communication services. Therefore, users integrate their perceptions of what they get and what they give up in mobile services. Further, previous studies have pointed out that the key factors of mobile companies’ success are the enhancement of perceived value and customer satisfaction (Yang and Peterson, 2004). Likewise, service perceived value is acknowledged in the literature as an antecedent which positively influences user satisfaction (Turel and Serenko, 2006).

Customer loyalty in mobile communication services is quite relevant because mobile communication services have the characteristics of typical contract services, in which most subscribers sign contracts over a specific period length to service providers (Kim et al., 2018).

Loyalty could be conceptualized as a deep commitment to rebuy or repatronize a preferred product or service consistently in the future (Oliver, 1999). Similarly, Dwivedi et al. (2017) report that the loyalty variable examines the repeated use of the same service over time. According to Gerpott et al. (2001), loyalty in the telecommunication mobile services industry is defined as a continuation of a business relationship between a service provider and a customer, leading to subsequent purchases, a contract extension or the customer intention to make future purchases from the service provider. Likewise, customer loyalty in the mobile sector could be defined as the intention of repurchase or remain consuming the service provided by the same service operator (Ruiz-Díaz, 2017). Therefore, in the present study, we assume the customer loyalty as the individual behavioral intention to continuously use mobile communication services with the current service providers. Moreover, previous research reports that perceived value influences customer loyalty in mobile services (Hsiao and Chen, 2016). Consequently, when users perceive that the value they obtain from a mobile service provider is high, they are more willing to engage with this company (Deng et al., 2010) and to remain loyal (Sirdeshmukh et al., 2002). Thus, we propose that when customers perceive a high service value, they will have an increased satisfaction; which in turn, will lead to a greater loyalty. Accordingly, the following research hypotheses are posed:

\[ H1. \] The mobile service perceived value has a positive influence on satisfaction

\[ H2. \] The mobile service perceived value has a positive influence on loyalty

2.1.2 The mobile service quality. According to Shin and Kim (2008), service quality is defined as the consumer or users’ overall impression of the relative efficiency of a service provider. More precisely, previous studies report the quality of the network connection, a good value for money and the customer services as the main drivers influencing the user perceived quality (Gerpott et al., 2001). The mobile service quality indicates that the service used by the customers is delivered by the providers with a high level of security and privacy, practicality, enjoyment and sociality (Arcand et al., 2017). Further, a great number of studies integrate the mobile service quality measurement model developed by Kim et al. (2004) and Choi et al. (2008) which includes six dimensions of mobile service quality, namely, network quality, value-added
services, mobile devices, customer services, pricing structure and billing system. Other authors reported as relevant factors of poor service quality the frequent disconnection or the lack of access (Shin, 2010). Finally, Deng et al. (2010) highlighted as the main variables influencing the perceived quality of mobile communication services the pricing policy, the network quality, the entertainment offer, the billing system and the customer service. Finally, and considering that ubiquity is one core attribute of mobile services, customers consider whether a specific mobile service is capable of providing consistent high-quality context-specific contents at different times and locations when evaluating the quality of mobile services (Wang et al., 2019). Therefore, mobile service providers are quite dependent on their capability to offer time- and location-specific services to meet their customer needs anytime and anywhere (Wang et al., 2019).

Previous research supports service quality as a driver of user satisfaction in the mobile services industry (Shin and Kim, 2008; Deng et al., 2010; Lu et al., 2011; Gao et al., 2015; Wang et al., 2019). Consequently, we propose that when users perceive high service quality, they will have an increased satisfaction. Similarly, several studies find a close relationship between the service quality and customer loyalty to a particular company or mobile service provider (Achour et al., 2011). Therefore, the following research hypotheses are posed:

H3. The mobile service quality has a positive influence on satisfaction.

H4. The mobile service quality has a positive influence on loyalty.

2.1.3 The mobile service provider corporate image. Corporate image can be defined as the set of meanings that individuals assign to a company and are used by them to remember, describe and relate to it as a result of their experiences, impressions, beliefs and feelings (Copley, 2004). Similarly, according to Aydin and Özer (2005), the corporate image is a result of an evaluation process, as it stems from all the consumption and usage experiences retrieved from memory and transformed into images. Following Nesset et al. (2011), corporate image is conceptualized as the way a company is defined in the individual’s mind. Accordingly, in the present study, we assume that corporate image stems from all the customer’s consumption experiences.

Previous studies have remarked the key role of corporate image in the way customers form their perceptions about the service providers’ performance (Deng et al., 2010). So, when the users’ perceptions of any service company are strongly related to attributes such as integrity and the company experience, being crucial for building and maintaining long-term customer relationships. The reason is that when users perceive that a mobile services company is reliable, trustworthy and with wide experience, they feel more satisfied (Deng et al., 2010). Accordingly, the corporate image is a determinant of user satisfaction (Nesset et al., 2011). Further, Srivastava and Sharma (2013) showed that corporate image is positively related to users’ loyalty and repurchase intention in mobile services. Consequently, the following hypotheses are posed:

H5. The mobile company corporate image has a positive influence on satisfaction.

H6. The mobile company corporate image has a positive influence on loyalty.

2.2 The moderating role of consumer involvement with information and communication technologies
2.2.1 The influence of involvement in consumer evaluations. Petty and Cacioppo (1981) developed the elaboration likelihood model, which describes how consumers make
evaluations in both low- and high-involvement circumstances, including the analysis of attitude formation. The *elaboration likelihood model* (Petty and Cacioppo, 1981) proposes that the degree to which individuals develop cognitive effort in evaluating a good or service depends on their level of involvement. More precisely, individuals follow either a peripheral or a central route to process information according to their level of involvement. Central route of information processing takes place under conditions of high involvement, such that consumers’ responses to the product or service result from actively processing information. Therefore, the central route deals with the attitude formation based on thought, diligent and rational consideration of the product and service. However, in the peripheral route, individuals are unmotivated or unable to actively process information, such as product-relevant attributes; in turn, individuals will rely on peripheral, simple cues like the attractiveness of the source or some simple arguments when evaluating the good or service. Therefore, the peripheral route involves much less thought.

2.2.2 The concept of involvement. In his seminal work, Bloch (1982) defines involvement as an internal state reflecting the amount of interest or attention a consumer directs toward a product. Similarly, involvement can be considered a key determinant of consumer behavior, as it is characterized by stability and the resistance to the external influences (Thomsen et al., 1995). Likewise, Beatty et al. (1988) described product involvement as the ongoing concern and feelings of interest, excitement, motivation and enthusiasm that consumers have about a specific product category. Much of the involvement definitional concern relates to whether involvement is object- or subject-oriented (Beatty et al., 1988). These authors conceptualized *ego involvement* as the importance of the product to the individual and the individual’s values, being similar to a subject-oriented type of involvement. Similarly, authors like Lesschaeve and Bruwer (2010) conceptualized the *enduring involvement* as being related to the general personal relevance or interest of a product category to the individual. Consequently, in the present study, we will examine the different levels of consumer or user involvement, related to a subject-oriented involvement, which could be described as the importance of the product – ICTs – to the individual.

Consequently, the level of involvement could be classified as ranging from low to high involvement based on the degree of effort that an individual devotes to a product/service category, related to the time invested in the choice and purchase decision and to the amount of information search or the time spent in evaluating alternatives (Zaichkowsky, 1986). Similarly, consumers with high product involvement have greater interest in product information, compare product attributes, hold more favorable beliefs about the product features and show higher purchase intention (Lesschaeve and Bruwer, 2010). Thus, highly involved consumers will invest time and effort to make the purchase decision.

Regarding the technology, Eagly and Chaiken (1993) suggested that involvement includes behavioral, emotional and cognitive components: the behavioral component is related to the familiarity and intensity of use of technologies; the emotional component covers feelings like enthusiasm or arousal; and the cognitive component includes knowledge and interest in the functionality of technologies. One related concept with ICT involvement is *technophilia*, which could be defined as the individual openness, interest and fascination toward ICTs (Rogers, 2003). Therefore, we can state that technophiles are individuals who are highly involved in technology.

Accordingly, the construct of involvement creates great interest in explaining differences between customers in their behavior in the mobile services industry. In the present study, we will conceptualize ICT involvement as the degree to which an individual is involved with technologies, likes and looks forward to learn about
technologies. Therefore, when the consumer is highly involved in ICT, we assume that he/she finds technologies interesting and arousing and occupies his/her thoughts without a purchase objective.

2.2.3 The moderating role of the level of consumer involvement with information and communication technologies. The role of consumer involvement as a potential moderator variable in mobile services can be justified by the theory of attitude formation (Jones, 1970) and on the heuristic-systematic information processing model (Chaiken, 1980). Based on these two theories, Trumbo (1999) demonstrates that highly involved individuals use a systematic processing of information, and in turn, these individuals form more stable attitudes, which have stronger influence on behavior. Accordingly, in the systematic information processing, individuals exert a great effort searching and examining information, as well as elaborating their beliefs and perceptions of objects.

Further, the heuristic-systematic information processing model (Chaiken, 1980) is in line with Zaichkowsky (1986) who reported that highly involved individuals have greater product information, compare attributes and hold more favorable beliefs about the product features. Similarly, Richins and Bloch (1988) indicated that highly involved users spend more time thinking about the product category, have a greater knowledge about the product or service and develop more accurate expectations about the product/service performance. In addition, authors such as Meyers-Levy and Peracchio (1996) note that highly involved individuals are more motivated to process available information more fully and diligently, whereas the less involved individuals are likely to use simple heuristics. Therefore, based on the heuristic-systematic information processing model (Chaiken, 1980), we propose that compared to less involved individuals, the more involved users will exert more effort in the mobile services selection process and, consequently, will have greater information about mobile communication services and about the service providers. Therefore, it can be assumed that highly involved ICT users will form more detailed service perceptions, influencing their purchase behavior, satisfaction and loyalty.

Regarding ICTs, Edison and Geissler (2003) suggest that highly involved individuals are more interested in ICTs and are more familiar with the everyday use of personal computers, mobile devices and communication technologies. Therefore, we can assume that consumers highly involved with ICTs would have greater knowledge and be better informed about technologies and their characteristics and would also develop higher loyalty.

Considering that involvement can lead to perceived differences in service outcome evaluations, we will examine the effect of varying involvement levels in the mobile services’ context. However, we will not examine the potential moderating role of user involvement on the relationships of variables on satisfaction, as both highly and poorly involved consumers/users can enjoy greater levels of satisfaction (Richins and Bloch, 1988). More specifically, this study examines whether the level of consumer involvement with ICT may affect customer loyalty toward mobile service providers and thus, play a moderating role in loyalty in a technology-based service setting. According to Barnes et al. (2019), the user involvement with technology has a great explanatory power in usage behavior, being a powerful determinant of engagement and loyalty (So et al., 2016). Similarly, the user psychological involvement is closely related to attitudinal loyalty (Chaudhuri and Holbrook, 2001). Further, Espejel et al. (2009) report that the consumer involvement multiplies the influence of perceived quality on the level of consumer loyalty, thus exerting a moderating role. Therefore, we propose the level of consumer involvement with ICTs as a potential
moderating variable in the creation of loyalty toward mobile service providers (Figure 1). Thus, the following hypotheses are posed:

- **H7.** The level of consumer involvement with ICTs moderates the influence of perceived value on loyalty to mobile services.

- **H8.** The level of consumer involvement with ICTs moderates the influence of service quality on loyalty to mobile services.

- **H9.** The level of consumer involvement with ICTs moderates the influence of corporate image on loyalty to mobile services.

### 3. Methodology

#### 3.1 Data collection

The data for the study were collected by a self-administered structured online questionnaire among users residing in Spain in March 2015. The empirical study was conducted in Spain, given that it represents a mature European market where mobile devices have been widely adopted, presenting a large number of mobile device users. Further, mobile communication services show a high penetration rate in Spain, reaching a 122 per cent rate in year 2016 (European Commission, 2016) which makes it possible the generalization of the results to other developed economies.

Potential respondents were contacted by e-mail to participate in the study. Then, we proceeded with a random sampling among consumers, inviting them to complete the online questionnaire, and asking them about their mobile service providers, to gather information regarding the specific company they have knowledge or usage experience. Thus, each one of the participants evaluated their own mobile services company. Finally, this procedure yielded a total of 541 completed questionnaires, and a total amount of 493 valid responses were obtained comprising several mobile service companies operating in Spain such as Movistar, Vodafone, Orange, Pepephone, Simyo, Yoigo, Yaztel, R and Eroskimovil.

Similarly, and to examine the moderating role of the level of involvement with ICTs, the participants’ level of involvement with ICTs was obtained using an involvement scale that contained three items regarding the individual’s overall interest with technology: “technology is important to me”, “I have a strong interest in technology” and “technology matters for me”. The responses were measured using a five-point Likert-type scale, and for

**Figure 1.** Conceptual proposed model for the role of consumer involvement with ICTs.
each participant, the involvement level was calculated by adding all the scores for each item. Accordingly, the total sample was divided into two sub-samples according to the level of involvement. Consequently, participants were classified as high involved consumers \((n = 275)\) or low involved consumers \((n = 218)\). Finally, the moderating influence of involvement will be examined through the Chi-Square comparison between the two groups.

The sampling error was 4.50 per cent, with a confidence level of 95 per cent and the last part of the questionnaire gathered the socio-demographic characteristics of the sample. Regarding the research sample profile, a total of 48.6 per cent of the participants were male, while the other 51.4 per cent of participants were female among highly involved customers; while the 62.6 per cent of participants were female and the other 37.4 per cent were male among the low involved customers.

In addition, the 38.1 per cent of the highly involved participants and the 36.7 per cent of the low involved participants were between 31 and 40 years old. In terms of education level, the 40.2 per cent of the highly involved and the 50.9 per cent of the low involved participants have university studies. Most of the participants are Movistar subscribers: 32.3 per cent among low involved participants and 30.6 per cent among highly involved participants (Table I).

3.2 Variables and measurement scales
All of the constructs in the conceptual model were measured using a multiple-item measurement scale, and all measures used a five-point Likert-type scale, with strongly disagree and strongly agree as the anchors. The measurement items were developed using a review of the literature related to our study (Table II). The service perceived value is measured by three items adopted from Kuo et al. (2009) to assess the overall perceived value. Second, the service quality was measured by three items adopted from Kuo et al. (2009). Third, we used three items to measure the corporate image, adopted from previous studies (Nguyen and LeBlanc, 2001). Regarding the variable customer satisfaction, we considered four items proposed by Burnham et al. (2003) and Kuo et al. (2009). Additionally, to measure customers’ loyalty, we adopted three items from Yoo et al. (2000).

4. Results
4.1 Analysis of the measurement model
To examine the measurement model, we develop a confirmatory factor analysis. The first analysis revealed the need to remove the item QAL2 from the proposed initial scale, as the squared multiple correlations did not reach the commonly accepted threshold of 0.50 (Hair et al., 1998). Having removed this indicator, the results showed an appropriate specification of the proposed factorial structure. In relation with the analyses of the internal consistency and reliability, Cronbach’s alpha \( (\alpha) \), composite reliability (CR) coefficients and analysis of the average variance extracted (AVE) were calculated (Anderson and Gerbing, 1988). The confirmatory factorial analysis shows that all standardized factor loadings are significant, with a reliability level of 95 per cent and reaching the commonly accepted threshold of 0.60 (Hair et al., 1998). Regarding the internal consistency and reliability, Cronbach’s alpha, CR coefficients and analysis of the average variance extracted (AVE) were calculated. In the first place, we obtained Cronbach’s alpha values \( (\alpha) \) from 0.797 to 0.922, thus being acceptable (Hair et al., 1998). The CR of the latent variables was higher than 0.60, indicating that all measures had good reliability (Hair et al., 1998). Additionally, the average variance extracted (AVE) varied from 0.652 to 0.836, thus reaching the threshold of 0.50; meaning that a good
convergent validity was obtained (Steenkamp and Van Trijp, 1991), as shown in Table III.

In addition, the measurement model was also examined. Results showed an adequate fit of the structural equation model, considering the goodness of fit indexes values: $\chi^2 = 243.170; \text{df} = 79; p < 0.00; \text{GFI} = 0.890; \text{NFI} = 0.963; \text{TLI} = 0.967; \text{RMSEA} = 0.050; \text{RMR} = 0.055; \text{CFI} = 0.973)$. Then, discriminant validity was tested by evaluating all possible paired combinations of the constructs (Table IV). Results show that the AVE values were greater than the squared correlations between any pair of constructs, suggesting discriminant validity (Fornell and Larcker, 1981).

### 4.2 Analysis of the structural model

Structural equation modeling was developed to assess the statistical significance of the research hypotheses (Table V). Model fit criteria suggested by Hu and Bentler (1999) were used for both the measurement and the structural model: Acceptable models should have $\chi^2/\text{df} \leq 3$, adjusted goodness of fit (AGFI) $\geq 0.80$, root mean square residual (RMR) $\leq 0.1,$
4.3 Analysis of the relationships among variables

Structural equation modeling was used to test the hypothesized relationships, via the maximum likelihood estimator using software Amos 18.0. Our findings support the proposed conceptual model, as only two out of the seven of the proposed relationships were
not identified (Table VI). Likewise, the obtained results highlight that the level of involvement with ICTs, namely, highly and poorly involved in ICT consumers, reported interesting differences in terms of the variables influencing the creation of satisfaction and loyalty towards the mobile services.

The results obtained indicate that service quality is the dimension with higher loading on customer satisfaction ($\beta_{24H} = 0.437^{*}$; $\beta_{24L} = 0.225^{**}$), followed by perceived value ($\beta_{14H} = 0.287^{*}$; $\beta_{14L} = 0.237^{**}$). Therefore, in terms of the effect size, the mobile communication service perceived quality seems to contribute the most to customer satisfaction. Therefore, it can be stated that the better mobile service quality and the greater perceived value, the higher satisfaction regardless the level of involvement with ICTs. Additionally, we found empirical evidence to propose a significant positive relationship between corporate image and user satisfaction ($\beta_{34H} = 0.305^{**}$) for highly ICT involved consumers; but this relationship did not reach statistical significance for low ICT involved users ($\beta_{34L} = 0.136^{ns}$). One potential explanation would be that low or poorly involved users do not have a clear image or associations regarding mobile service companies, because of their lower knowledge and information.

Regarding the factors influencing loyalty towards mobile service providers we should highlight that only one of the proposed relationships – perceived value – is significantly positive for users with high ICT involvement ($\beta_{15H} = 0.194^{**}$). Nevertheless, the other variables under analysis, namely, the service quality ($\beta_{25H} = 0.013^{ns}$) and corporate image ($\beta_{35H} = 0.008^{ns}$), showed no significant influence on loyalty, contrary to our initial expectations, as the relationships were in the expected direction, but failed to reach statistical significance. Therefore, our findings do not empirically support a significant relationship between service quality and loyalty, as well as between corporate image and loyalty.

One possible explanation may be that users highly involved with ICT have great information about the technology-based services provided and seek for greater quality.

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<table>
<thead>
<tr>
<th>High ICT involved customers</th>
<th>Low ICT involved customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived value 0.782</td>
<td>0.652</td>
</tr>
<tr>
<td>Service quality 0.618</td>
<td>0.836</td>
</tr>
<tr>
<td>Corporate image 0.512</td>
<td>0.634</td>
</tr>
<tr>
<td>Satisfaction 0.709</td>
<td>0.715</td>
</tr>
<tr>
<td>Loyalty 0.709</td>
<td>0.663</td>
</tr>
</tbody>
</table>

Table IV.
Correlations among constructs

Note: The diagonal values in bold represent the square root of the average variance extracted of each construct.

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<table>
<thead>
<tr>
<th>Absolute fit measures</th>
<th>Incremental fit measures</th>
<th>Parsimony measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square 299.170</td>
<td>df 108</td>
<td>p 0.000</td>
</tr>
</tbody>
</table>

Table V.
Structural modeling adjustment indexes
<table>
<thead>
<tr>
<th>Relationships</th>
<th>High ICT involved customers ($n = 275$)</th>
<th>Low ICT involved customers ($n = 218$)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Standardized coefficients ($\beta$)</td>
<td>$t$ value</td>
</tr>
<tr>
<td>Perceived value $\rightarrow$ Satisfaction</td>
<td>$\beta_{14H} = 0.287^{**}$</td>
<td>5.033</td>
</tr>
<tr>
<td>Service quality $\rightarrow$ Satisfaction</td>
<td>$\beta_{24H} = 0.437^{**}$</td>
<td>5.918</td>
</tr>
<tr>
<td>Corporate image $\rightarrow$ Satisfaction</td>
<td>$\beta_{34H} = 0.305^{**}$</td>
<td>4.043</td>
</tr>
<tr>
<td>Perceived value $\rightarrow$ Loyalty</td>
<td>$\beta_{15H} = 0.194^{**}$</td>
<td>2.939</td>
</tr>
<tr>
<td>Service quality $\rightarrow$ Loyalty</td>
<td>$\beta_{25H} = 0.013^{ns}$</td>
<td>0.128</td>
</tr>
<tr>
<td>Corporate image $\rightarrow$ Loyalty</td>
<td>$\beta_{35H} = 0.008^{ns}$</td>
<td>0.093</td>
</tr>
</tbody>
</table>

$R^2_{\text{Satisfaction}} = 0.905$  
$R^2_{\text{Loyalty}} = 0.929$

Notes: ns = no significative; ** significative ($p < 0.05$)
regardless the specific company offering them; and in turn, highly involved users are more difficult to retain. Likewise, our results highlight a significant direct relationship between mobile communication service quality and loyalty ($\beta_{25L} = 0.595^{**}$), as well as between service perceived value and loyalty ($\beta_{15L} = 0.362^{**}$) for consumers with low involvement with ICTs. However, we did not find empirical support for a significant relationship between corporate image and loyalty ($\beta_{35L} = 0.073^{ns}$), contrary to our initial expectations. Therefore, it seems that the mobile service provider image does not have an impact on loyalty, despite the level of service quality provided or the type of services offered.

Finally, our results provide support for most of the proposed research hypotheses for highly involved consumers – $H1$, $H2$, $H3$ and $H5$—thus not supporting $H4$ and $H6$. Similarly, our findings support $H1$, $H2$, $H3$ and $H4$ for low involved consumers, while not providing empirical support for $H5$ and $H6$.

4.4 The moderating role of involvement with information and communication technologies

To examine the hypothesis that consumers’ involvement with ICTs moderates the influence of perceived value, service quality and corporate image on loyalty towards mobile service providers, a structural equation model was tested through a multiple-group analysis. More precisely, the research sample was divided into two sub-samples, according to the consumers’ level of involvement with ICTs. Therefore, sample comparisons were then made between highly ICT involved consumers ($n = 275$) and those who showed a low ICT involvement ($n = 218$).

In the first place, the conceptual proposed model was estimated with all hypothesized parameters allowed to be estimated freely within each sub-sample ($\chi^2 = 299.170; p < 0.000; \text{CFI} = 0.953$). Then, in a series of constrained models, the path coefficients corresponding to the links between perceived value-loyalty ($H7$), service quality-loyalty ($H8$) and corporate image-loyalty ($H9$) were constrained to remain invariant.

Prior research on the examination of the moderating role considers the increase of the value of the Chi-Square distribution (Perez and Garcia, 2012; Fernández-Sabiote et al., 2013). Our findings show that the significantly higher $\chi^2$ values for the constrained models did not improve the model fit in one out of three of the proposed relationships (Table VII). Therefore, these results support the hypothesized moderating role of the customer involvement with ICTs on the service quality-loyalty link ($\Delta\chi^2 = 4.867; df = 1, p < 0.000$). However, the no significant values for the increase of $\chi^2$, do not support the moderating influence of involvement with ICTs in the perceived value-loyalty link ($\Delta\chi^2 = 0.867; df = 1, p < 0.000$) and in the corporate image-loyalty link ($\Delta\chi^2 = 0.052; df = 1, p < 0.000$).

5. Conclusions

The present study aims to contribute to the existing literature in the field user involvement by examining the moderating role of the level of consumer involvement with ICTs, and its

| Table VII. Analysis of the moderating role of customer involvement with ICT technologies |
|-----------------|-----|-----|-----|
|                  | Chi-square | $\Delta\chi^2$ | df | $p$ | Hypotheses  |
| Unconstrained baseline model  | 299.170 |     | 108 |   | 0.953       |
| Constrained paths                |     |     |     |   |             |
| Perceived value → Loyalty         | 300.236 | 0.867 | 109 | 0.000 | H71: Not Supported |
| Service quality → Loyalty         | 304.037 | 4.867 | 109 | 0.000 | H72: Supported  |
| Corporate image → Loyalty         | 299.222 | 0.052 | 109 | 0.000 | H73: Not Supported |
| All path constraint | 304.410 | 5.24 | 111 | 0.000 |            |
potential influence in the mobile service behavior, since service outcome evaluations are influenced by the level of consumer involvement.

Our conceptual proposed model was supported by the data collected, describing some empirical findings of the factors that determine user satisfaction and loyalty with mobile communication services, comparing different levels of consumer involvement with ICTs.

This study aimed to examine whether the level of involvement with ICTs influences or not the consumer behavior in the mobile services industry. Our findings report that the level of consumer involvement with ICTs plays a moderating role in the creation of customer loyalty with mobile service providers. More precisely, our findings support a partial moderating role of consumers’ involvement with ICTs, highlighting that consumers slightly involved with ICTs experience a greater impact of the service quality on their loyalty to the mobile service providers. One potential explanation is that poorly involved ICT users rely on their subjective quality perception or on service attributes to a greater extent, being in line with Petty and Cacioppo (1981). Another potential reason is that user involvement with ICTs might be playing a mediating role, between service quality, perceived value, corporate image and loyalty.

Likewise, the present research analyzes the factors that drive user satisfaction and loyalty in the mobile services industry. Our findings highlight that service quality, followed by the service perceived value are the main factors influencing customer satisfaction and loyalty, while the company corporate image has less explanatory power, regardless the level of consumer involvement with ICTs. Therefore, in line with previous studies in the mobile sector, both service quality (Lu et al., 2011; Gao et al., 2015; Wang et al., 2019) and perceived service value (Yang and Peterson, 2004; Turel and Serenko, 2006; Hsiao and Chen, 2016) were shown to be good predictors of customer satisfaction and loyalty.

In fact, one interesting finding is that the mobile services’ quality is the driver with the largest effect on customer satisfaction followed by service perceived value, as proposed by Kuo et al. (2009). In addition, the corporate image showed a slight impact. One possible explanation for the low impact of corporate image is that this variable might be considered an outcome of satisfaction when corporate image is considered as “the total of what consumers think about a particular company” (Nesset et al., 2011).

Therefore, we can state that when mobile service providers reinforce their services’ quality, customer satisfaction and loyalty are considerably improved. This result is in line with Kuo et al. (2009) and Wang et al. (2019) and implies that if mobile service companies aim to induce higher customer satisfaction, the enhancement of service quality should be prioritized.

Another relevant finding is the important influence of service quality and perceived value on user loyalty for low involved consumers. So that, the higher the mobile service quality and service perceived value, the higher customer loyalty, when consumers are slightly involved or interested in ICTs. Likewise, another interesting finding is that results do not provide empirical support for service quality and corporate image as exerting a significant influence on loyalty for highly involved ICTs consumers. One possible explanation is that these consumers have great information about the technology-based services provided, and seek for a greater service quality; thus being more difficult to retain. Moreover, our findings show the lack of significant influence of the service provider corporate image on loyalty, regardless the level of consumer involvement with ICTs.

The major contribution of the present study is the analysis of the moderating role of consumer involvement with ICTs in the behavior toward mobile services, reporting a partial moderating effect. We hypothesized the potentially moderating influence of consumer involvement, and our results confirm our initial hypotheses for the relationship between service quality and loyalty.
5.1 Managerial implications, limitations and future research guidance

Derived from our findings, we propose some useful insights for mobile service providers. In the first place, service providers could develop market segmentation and perform marketing strategies based on the consumers’ level of involvement with ICTs. Moreover, mobile tailored services could be offered to these specific groups of customers, based on their involvement with technologies. The highly involved customer segment is important from a manager’s perspective, since these customers are heavy users of the product or service category. In this sector, many mobile service providers are concerned about building and maintaining long-term relationships with their customers, as attracting new customers is considered more expensive than retaining current ones. In this context, mobile providers could improve customers’ satisfaction and loyalty through the reinforcement of service quality. Further, our findings suggest that mobile service companies should offer added value and personalized communication services as a way to enhance user satisfaction, such as customized applications, location-based services, interactive voice-response services, mobile money transfer or customized infotainment. Additionally, to improve the mobile services’ perceived value, the service providers could give personal functional benefits or enhance the key functionalities of mobile services.

This research has several limitations which also provide possible avenues for future research. As for the main limitation of this study, our findings reflect consumer behavior referring to various mobile services; however, the research could have focused on a more specific mobile service such as voice service, mobile internet access, data service, location-based service or other innovative mobile service. In the second place, this empirical research was carried out in one single market. In the third place, our study analyzed a number of variables proposed in previous literature, which only represent a small part of all factors affecting customer satisfaction with mobile communication services, such as trust in the company or the price level.

Furthermore, future research on the topic could examine the potential mediation role of consumer involvement with ICTs. In doing so, a comparison between the moderating and mediating role of involvement could be provided. Finally, the relationship between satisfaction and loyalty was not considered in the present research, and a moderating effect of consumer involvement with ICTs could also exist. Hence, although this study reports interesting results, caution must be exercised when generalizing results, and consequently, replicating this study in other contexts and countries could validate the findings reported.

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Different kinds of research shoppers, different cognitive-affective consequences

Diferentes tipos de consumidores research shopper, diferentes consecuencias cognitivo-afectivas

Nuria Viejo-Fernández, María José Sanzo-Pérez and Rodolfo Vázquez-Casielles
Administración de Empresas, Universidad de Oviedo, Oviedo, Spain

Abstract
Purpose – Customer journey is more omnichannel than ever. Currently, one of the most influential omnichannel behaviors is research shopping in its two predominant forms: webrooming and showrooming. The purpose of this study is to determine the possible moderating effect of each of these behaviors from a cognitive-affective perspective.

Design/methodology/approach – The proposed theoretical framework was applied to a sample of 636 mobile phone users.

Findings – The results indicated that research shopping moderated the intensity of the relationship between emotions and perceived value and between emotions and satisfaction. The analysis of the moderating effect of each concrete type of research shopping behavior indicated that negative emotions had a more intense negative effect on perceived value and satisfaction in the case of webrooming than in the case of showrooming.

Originality/value – This study focused on determining the possible moderating effect of research shopping vs one-stop shopping and webrooming vs showrooming on the intensity of the relationship between emotions, perceived value and satisfaction, considering determining factors of customer engagement to retailers (Han and Jeong, 2013). To achieve this objective, the authors performed a quantitative research in the Spanish market, choosing mobile phones as a reference product. The results will contribute to the current state of omnichannel retailing research by the analysis – through a cognitive-affective approach – of the consequences that research shopping and each of its two basic types (webrooming and showrooming) have on retailers.

Keywords Perceived value, Satisfaction, Emotions, Showrooming, Webrooming, Research shopping

Paper type Research paper
Resumen

Objetivo – El proceso de compra de los clientes es más omnicanal que nunca. En la actualidad, uno de los comportamientos de compra omnicanal más influyentes es el denominado research shopping en sus dos formas predominantes: el webrooming y el showrooming. El objetivo principal de este estudio es determinar el posible efecto moderador de cada uno de estos comportamientos desde una perspectiva cognitivo-afectiva.

Diseño/metodología – El marco teórico propuesto se aplicó a una muestra de 636 usuarios de teléfonos móviles. Asimismo, se realizó un análisis multigrupo para comparar si existen diferencias entre los consumidores que realizan research shopping y los compradores unicanal, así como entre los webroomers frente a los showroomers.

Resultados – Los resultados muestran que la conducta research shopping modera la intensidad de la relación entre las emociones y el valor percibido, y entre las emociones y la satisfacción. El análisis del efecto moderador de cada tipología concreta de research shopping evidencia que, en el caso del webrooming, las emociones negativas tienen un efecto negativo sobre el valor percibido y sobre la satisfacción más intenso que en el caso del showrooming.

Originalidad/valor – Este estudio contribuye al estado actual de la investigación sobre la estrategia omnicanal mediante el análisis a través de un enfoque cognitivo-afectivo – de las consecuencias que el research shopping y cada una de sus dos tipologías básicas (webrooming y showrooming) tienen para los minoristas.

Palabras clave – Research shopping, Webrooming, Showrooming, Emociones, Valor percibido, Satisfacción

Tipo de artículo – Trabajo de investigación

1. Introduction

Retailing is immersed in the most significant revolution of recent decades, and omnichannel retailing (OCR) is one of the major trends that are transforming the retail sector (World Retail Congress, 2016). OCR is the coordinated management of physical and virtual channels that allow customers to buy at any time and place and obtain a holistic experience between channels (Verhoef et al., 2015; Mosquera et al., 2018).

Studies on current consumption habits have indicated that customers make intensive use of the different touchpoints that are made available by companies and the different electronic devices they have to access a large amount of information about brands, products, opinions and experiences of other users and experts. Currently, customers are research shoppers that use one channel more intensively (whether offline or online) in the information search stage, choosing another alternative channel to acquire the product (Verhoef et al., 2007). Therefore, it is possible to observe two predominant behaviors of research shopping, i.e. webrooming (search online, buy in a physical store) and showrooming (searching for information offline and then buying a product online).

Our literature review suggests that research shoppers constitute a valuable segment for retailers. In this sense, one of the possible issues that should be interesting to study is the influence that variables of cognitive-affective nature have on retailers’ commercial strategies.

Specifically, our study focused on determining the possible moderating effect of research shopping vs one-stop shopping and webrooming vs showrooming on the intensity of the relationship between emotions, perceived value (PV) and satisfaction, considering determining factors of customer engagement to retailers (Han and Jeong, 2013).

To achieve this objective, we performed a quantitative research in the Spanish market, choosing mobile phones as a reference product. The results will contribute to the current state of OCR research by the analysis – through a cognitive-affective approach – of the consequences that research shopping and each of its two basic types (webrooming and showrooming) have on retailers.

This study is structured into five sections. In Section 2, we describe the theoretical framework of the research and present the hypotheses. In Section 3, we explain the empirical study conducted for the contrast of the hypotheses previously put forward. Section 4 presents the main
results. In Section 5, we present the conclusions and implications for management. Finally, in Section 6, we address the main limitations of our study and proposes future lines of research.

2. Theoretical framework and hypothesis

2.1 Moderating effect of research shopping on the relationship between emotions, perceived value and satisfaction

From the academic and professional points of view, there has been a special interest to know what benefits customers can bring to the companies through the experiences they have during the shopping journey. According to Meyer and Schwager (2007), emotions can be considered an antecedent of the PV (economic and relational) by customers and their satisfaction regarding offers from retailers.

The literature on OCR has focused on determining how customers that develop any omnichannel behavior are more profitable than those who only engage with retailers in one channel (one-stop shoppers). However, these customers are defined by being strict, given that they demand a unique experience through the different touchpoints used to interact with retailers. In this sense, it is necessary to take into account variables of a cognitive-affective nature as a starting point to ensure that this target is loyal and increases its value for retailers.

The success of companies lies in being able to generate positive emotions to their customers so that they can perceive the brand as theirs and, thus, develop greater satisfaction and engagement (Han and Jeong, 2013). On the other hand, if companies generate negative emotions in the customers, the PVs of their offers will be reduced, customer satisfaction will decrease and their propensity to complain and share the experience through word-of-mouth (WOM) will also increase (López-López et al., 2014). In addition, customers might abandon the relationship (Varela-Neira et al., 2014).

In general terms, research shopping might enhance the emotions (both positive and negative) experienced in the shopping journey, thereby influencing the PV and satisfaction. This fact can be explained by resorting to theories about information processing, giving that research shopping implies changes in the way in which customers search, evaluate and compare information.

One of the most relevant models used to study information processing is the elaboration likelihood model (ELM) proposed by Petty and Cacioppo (1986). This model considers that information processing is a continuum, whose extremes are formed by two intensity levels, high and low. This fact will lead to two possible ways by which individuals can process information, i.e. a central route and a peripheral route. Individuals who follow the central route are more motivated and involved in searching for information (Petty and Cacioppo, 1986; Drichoutis et al., 2007). They will examine more critically, deeply and rationally all the information related to the products, increasing the possibility of experiencing emotions during the search process and reinforcing the PV of the offers of companies. On the other hand, individuals who follow the peripheral route will pay less attention to the information or messages received, performing a more superficial processing with fewer opportunities to experience emotions.

The combination of offline and online touchpoints, on the part of research shoppers, facilitates the adoption of the central route to search, obtain, compare and evaluate specific information about products, brands and/or retailers before purchasing. This combination of touchpoints demonstrates a more rational and reflective behavior in which more information is handled and more time and efforts are invested, thus increasing the opportunities to experience emotions and, therefore, improving the PV of the offers of companies. However, according to the study conducted by Rodriguez-Torrico et al. (2017), it should be considered whether the intensive use of mobile phones can influence the development of a more impulsive buying behavior.
The review of the literature performed indicated that customers who seek information online through their smartphones within the physical stores before acquiring the products in such retailer have a more consolidated opinion (Flavían et al., 2016), improving the PV of the offers of the companies and their level of satisfaction. According to Mosquera et al. (2018), the applications included in mobile devices, such as those that allow scanning the QR codes of products, make price comparisons or establish product rankings or the applications of different social networks, in which customers value the products and/or give opinions about their shopping experiences, expand the possibilities of analyzing the PV and facilitate decision-making. In general terms, it can be argued that research shopping is associated with a greater probability of using the central route of information processing, thus increasing the opportunities to experience emotions and, therefore, improving the PV of the offers of companies.

This greater implication inherent in research shopping allows customers to receive a more complete and profound experience of their interactions with retailers. The main attraction of online channels (in addition to aspects such as price or convenience) is the fact that customers can have interactive conversations with the companies. The latter actively listen to the customers and involve them in their management, turning them into “prosumers”. For its part, physical stores remain an important point of reference in shopping journey, where the customers can inspect the products not only physically but also in different scenarios provided by the technological implementation of virtual or augmented reality within salesrooms. Another example is the case of clothing stores, in which virtual fitting rooms facilitate customers to see different colors and sizes of the same garments without having to try them on and interact with sellers (Mosquera et al., 2018).

Customers who interact with both types of channels are more likely to have increased involvement with the companies. This way, their positive and negative emotions can be reinforced and intensified. This fact can influence the PV, because it promotes favorable or unfavorable attitudes in the shopping experience. These attitudes can be a filter, i.e. a variable that enhances the perception of value if the attitudes are positive or reduces the perception of values if the attitudes are negative. In this line, Petty et al. (2009) point out that customers’ emotions can influence their attitudes, given that the affective component of attitudes is determined by the emotions that the individuals have during the consumption experience (Cohen et al., 2008).

On the other hand, Bagozzi et al. (2016) considered that customers anticipate the positive and negative emotional consequences of the choices they make throughout the different stages of the purchase process. Thus, unlike the previous case, the affective part of attitudes will be determined by the anticipated emotions that the customers experience depending on how they think their customer experience will be with the different distributors they have chosen to search for information about the products they want to buy, and the retailer that has finally been chosen to make the purchase. In summary, the following hypotheses can be put forward:

\[ H1a. \] The positive relationship between positive emotions and PV is more intense in the case of research shopping than in the case of one-stop shopping.

\[ H1b. \] The negative relationship between negative emotions and PV is more intense in the case of research shopping than in the case of one-stop shopping.

The development of emotional marketing will affect in the same way as satisfaction (Kwon et al., 2016). However, according to the study conducted by López-López et al. (2014), it should be noted that the level of intensity in the relationship between positive or negative emotions and satisfaction can present certain differences. Retailers should provide pleasurable experiences in both offline and online environments to generate positive emotions (avoiding
negative emotions) to increase not only the PV but also satisfaction (De Hooge, 2014). Communication centered on favorable messages is also necessary. These messages should provide adequate information to mitigate doubts before, during and after the purchase and avoid cognitive dissonance to favor satisfaction (Bagozzi et al., 2016).

Customers who experience more intense emotions (positive and negative) also have higher (reduced) levels of satisfaction and show greater need to share their emotional experiences with other customers. This may be the case of research shoppers who, by adopting a central route of information processing, have more opportunities to experience emotions with the corresponding greater impact on satisfaction.

In addition, research shoppers who experience positive emotions with retailers will tend to share them with the aim of reliving those pleasurable experiences and ratify the success of their choice. Memories and altruistic work increase customers’ positive emotions and satisfaction (Pennebaker and Chung, 2007). In case of experiencing negative emotions, customers may want the retailers to know their discontent so that they can take measures to repair their behavior (Yi and Baumgartner, 2004). Customers can also communicate their negative experience through WOM and e-WOM communication. Reliving bad experiences and finding individuals who support these negative feelings will generate even more discontent in the customers (Byrd-Craven et al., 2007), thus negatively influencing their satisfaction. All these reflections lead us to make the following hypotheses:

- **H2a.** The positive relationship between positive emotions and satisfaction is more intense in the case of research shopping than in the case of one-stop shopping.
- **H2b.** The negative relationship between negative emotions and satisfaction is more intense in the case of research shopping than in the case of one-stop shopping.

The PV is an antecedent of satisfaction. Customers who have concrete purchasing experiences and perceive the different dimensions that integrate the PV throughout the shopping journey, for which they had certain expectations, will check whether they have been confirmed or not. Such an evaluation gives rise to a certain level of satisfaction. Therefore, the higher the PV, the greater the degree of satisfaction will be (Kesari and Atulkar, 2016).

The study of the concept of PV contemplates its dimensionality, being able to identify two approaches. The one-dimensional approach defines PV as a cognitive trade-off between the quality that customers perceive and the monetary sacrifice they make (Sánchez-Fernández and Iniesta-Bonillo, 2007). This perspective considers that customers are rational beings who only buy products when they can maximize their utility. However, customers also seek to have unique and differentiating experiences during their relationship with retailers (Han and Jeong, 2013) and interact and share their experiences with employees and other customers through offline and online channels (Penz and Hogg, 2011). This is how the multidimensional approach takes into account the utilitarian or functional dimension and the hedonic dimension that includes emotional and social aspects.

In comparison to one-stop shoppers (offline or online), research shoppers, due to the adoption of a central route of information processing, may have a more complete perception of the companies and their offers that include functional-economic and social-emotional dimensions. This way, customers will be able to take advantage of the utilities and advantages provided by physical and virtual channels.

Traditionally, online channels have been linked to the promotion of utilitarian values, such as economic savings, time and effort, comfort, convenience or the available assortment. The hedonic value should also be strengthened given that, in many cases, the first contact between retailers and customers occurs through the Internet.
A website designed with a structure that favors usability and Web browsing accessible from any device (responsive design), with a combination of colors, images and graphics that draw attention (Flavián et al., 2009; Rose et al., 2012), will enhance the hedonic value of online channels. In the same way, according to Flavián et al. (2009), the quality of the information provided by retailers on their websites about the product portfolio they sell (detailing prices and main characteristics, providing images from various angles or in 3D format, showing complementary products, etc.) and about other aspects and services (contact forms, delivery times, purchase history, personalized advices and recommendations, opinions of experts and influencers, etc.) entails that virtual channels are less impersonal and that the customers can interact with the retailers considering not only attributes of utilitarian value but also activities associated with other dimensions of functional and hedonic character that integrates the PVs (Yoo et al., 2015).

For its part, it is advisable to enhance hedonic values in offline channels (without forgetting the utilitarian aspect), thus allowing customers to examine the products physically and use their senses, interact with other individuals and receive personalized advice. Through their architecture, internal layout, lighting, colors, background music and smell, physical stores can also facilitate the development of customers' positive perceptions. Likewise, the inclusion of in-store information and communication technologies (ICTs), such as augmented reality, virtual fitting rooms or iBeacon technology, can improve the shopping experience (Mosquera et al., 2018).

This way, it seems that research shopping influences the customers to develop a more complete perception of the retailers as a result of the adoption of a central route of information processing. In addition, it can reduce the risks associated with the use of a single channel, especially if it is the internet, which positively makes customers feel more satisfied. The proposed hypothesis is the following:

**H3.** The positive relationship between PV and satisfaction is more intense in the case of research shopping than in the case of one-stop shopping.

Figure 1 shows the hypotheses relating to the moderating effect of research shopping.

### 2.2 Webrooming and showrooming as moderators of the relationship between emotions, perceived value and satisfaction

According to the characteristics that define webrooming with respect to showrooming, there could be differences in the way in which the customers process the information and, therefore, generate differences in the intensity of the relationship between emotions, PV and satisfaction.

Webrooming is more associated to a central route than showrooming. Webroomers first consult the internet to obtain information about a product, making comparisons with other...
similar products and analyzing other customer ratings. Subsequently, they go to physical stores, where they finally make purchases with an opinion of what they want to acquire. Even, within the physical stores, webroomers can complete or improve the information previously obtained by consulting their smartphones (Flavián et al., 2016; Mosquera et al., 2018). In the salesrooms, customers analyze the products either physically or aided by technological applications and receive advice from sales personnel, while already having considerable prior information and knowing what they want.

On the other hand, even though showroomers also show involvement in the purchase by combining physical and virtual channels, it is possible that they do not have sufficient information about the characteristics of the products at the time they go to the physical stores, exhibiting a less consolidated attitude than webroomers regarding the type of products to be acquired (Rapp et al., 2015; Yurova et al., 2016). Given the confidence that showrooming customers develop through virtual channels, and the intensive use they make of their smartphones (GfK, 2015), it can be assumed that their purchases will be less planned in comparison to those of webroomers (Rodríguez-Torrico et al., 2017). In this sense, retailers will try to encourage impulse purchases due to the characteristics of these devices and the existence of multiple mobile marketing actions (San-Martín and López-Catalán, 2013).

In summary, webrooming is a more planned behavior than showrooming, given that webroomers use the mix of touchpoints, offline and online, which they consider optimal to look for information that allows them to anticipate what their shopping experience will be like (positive or negative) depending on the retailers chosen (Bagozzi et al., 2016). This fact means that their attitude in all the stages that make up this process is choosing the retailer that represents the best option. This greater involvement in the shopping journey is more likely to enhance the “activation” dimension of emotions, making webroomers perceive a greater value of the companies, which influences satisfaction during the shopping journey. Therefore, we can put forward the following hypotheses:

\[
H4a. \text{ The positive relationship between positive emotions and PV is more intense in the case of webrooming than in the case of showrooming.}
\]

\[
H4b. \text{ The negative relationship between negative emotions and PV is more intense in the case of webrooming than in the case of showrooming.}
\]

\[
H5a. \text{ The positive relationship between positive emotions and satisfaction is more intense in the case of webrooming than in the case of showrooming.}
\]

\[
H5b. \text{ The negative relationship between negative emotions and satisfaction is more intense in the case of webrooming than in the case of showrooming.}
\]

\[
H6. \text{ The positive relationship between PV and satisfaction is more intense in the case of webrooming than in the case of showrooming.}
\]

Figure 2 shows the proposed theoretical model.

3. Research method
3.1 Research scope and sample design
To test the proposed hypotheses, we performed an empirical research choosing smartphones as a reference product, which has a use rate of 80 per cent in Spain (Ditrendia, 2018). Smartphones can be considered an experience product (Ekelund et al., 1995). Customers cannot assess a priori whether the choice of one mobile phone over another (for example, Android vs iOS mobile operating systems) will provide them with greater utility,
positive experiences or satisfaction. This way, to avoid the risks associated with purchases, customers seek information by developing any of the research shopping, webrooming or showrooming behaviors (ONTSI, 2017).

To achieve the objectives of the present study, we performed a personal survey. Table I shows the research data. The profile of the sample is shown in Appendix 1.

3.2 Measurement of the model variables
The measurement of emotions, PV and satisfaction was performed through a series of items obtained in the literature review on the subject. All the items were evaluated using a 11-point Likert scale. Appendix 2 shows the scales and items used.

As far as emotions are concerned, they have not been analyzed just at the moment they occurred, but a posteriori. The quick and ephemeral nature of emotions seems to suggest that the first option is more advisable. However, the high cost of this method and its intrusive consideration by individuals means that a posteriori measurement remains the most widespread technique. Studies as those conducted by Jaeger et al. (2013), King et al. (2013) and Piqueras-Fiszman and Jaeger (2014a, 2014b) have demonstrated this fact, evidencing that emotions experienced during the use or consumption of products function as a selection system. Customers store in their memories and in a prolonged manner the facts that have special emotional meanings, which can be positive (De Hooge, 2014) or negative (Frijda, 1988). This way, these facts are more easily remembered.

Regarding PV, we focused on the studies conducted by Fandos et al. (2006), Moliner et al. (2005), Sánchez et al. (2006) and Sweeney and Soutar (2001). Considering these works, we measured the PV from two of its basic dimensions, i.e. the functional value (FV) and the social value (SV). The FV dimension is composed of three items, namely:

![Research proposal](image)

**Table I.** Research data

<table>
<thead>
<tr>
<th><strong>Table I.</strong> Research data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universe</td>
</tr>
<tr>
<td>Data collection</td>
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<tr>
<td>Scope of study</td>
</tr>
<tr>
<td>Sample size</td>
</tr>
<tr>
<td>Sampling procedure</td>
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<tr>
<td>Sample error</td>
</tr>
<tr>
<td>Field work period</td>
</tr>
</tbody>
</table>
• FV of the company;
• FV of sales personnel; and
• FV of the price.

After confirming the reliability and validity of the FV and SV, we combined the two scales into a second-order factor, which was called PV.

Research shopping was measured through three types of questions (Appendix 2). First, we used a dichotomous question, in which the respondents specified whether they had made the purchase through a single channel (regardless of whether it was offline or online) or, on the contrary, had used both the physical and the virtual channels. Subsequently, to determine whether their behaviors had indeed been research shopping or one-stop shopping, we included a question that referred to offline and/or online information sources used during the shopping journey and the place (physical or virtual stores) chosen to acquire the mobile phones. Finally, research shopping was measured through a ten-point scale [1], in which 1 referred to the use of a single channel (whether physical or virtual) and 10 referred to the combined use of offline and online channels to choose and buy the mobile phones.

Finally, the measurement of webrooming and showrooming was performed by means of a dichotomous question. The respondents specified which channel they had used most intensively to look for pre-purchase information and which channel they had chosen to purchase their mobile phones (Appendix 2).

3.3 Reliability and validity of the scales
Reliability was assessed using Cronbach’s alpha reliability coefficient and the compound reliability coefficient (in all cases they exceeded the value 0.7). We also assessed the validity of the content (the scales had been validated in previous studies), convergent validity (the standardized lambda of the relationship between the observed variable and the latent variable were significant and greater than 0.5) and discriminant validity (the confidence intervals of all the correlations between the concepts analyzed did not contain the unit value, and its squared value did not exceed the average variance extracted – AVE – in the measurement scales considered). Finally, the AVE was calculated as an indicator of the convergent validity of each scale, exceeding in all cases the minimum value of 0.5 (Appendix 2).

4. Results
4.1 Moderating effect of research shopping
We performed a multigroup analysis using the EQS 6.2 software for Windows and the robust maximum likelihood method (ML Robust) to contrast the proposed hypotheses concerning the moderating effect of research shopping (261 respondents) in comparison to one-stop shopping behavior (375 respondents).

The multigroup analysis requires reporting the statistical power of the test to validate the study design and interpret the results as accurately as possible. This issue is especially relevant when working with small sample sizes, in which no significant results are obtained (the possibility of detecting a true effect is reduced) or the probability that a significant result reflects a true effect is reduced (Cohen, 1988). According to Cohen (1988), the recommended statistical power is 80 per cent. In the present study, we obtained a statistical power of 80.3 per cent (G*Power 3.1 software), thus validating the results obtained.

The results (Figure 3 and Appendix 3) indicated that both positive and negative emotions influenced the PV. This influence was significantly greater in the case of research shopping than in the case of one-stop shopping, although only for positive emotions.
Therefore, we accepted $H_{1a}$, and $H_{1b}$ was rejected. Positive and negative emotions also influenced satisfaction, and this influence was significantly greater in the case of research shopping regarding positive emotions. Again, we did not observe significant differences for negative emotions. Therefore, we accepted $H_{2a}$, and $H_{2b}$ was rejected. On the other hand, PV influenced satisfaction, and this influence was greater in the case of research shopping than in the case of one-stop shopping, giving support to $H_3$.

To assess the mediating effect of the PV, we compared two models using structural equation modeling (SEM) and the $\chi^2$ difference test. According to Cheung and Lau (2008) and Iacobucci et al. (2007), SEM is the most appropriate technique for calculating the effects of mediation when the models are composed of dependent, mediating and latent independent variables with several indicators. For its part, $\chi^2$ difference test is used to determine the improvement of a model adjustment with respect to an alternative model. A model adjustment in comparison to an alternative model is considered acceptable when the probability of the $\chi^2$ difference test value with respect to the degrees of freedom required is significant ($p < 0.05$).

Appendix 4 illustrates the restricted model, showing the total mediation of PV between emotions (independent variable) and satisfaction (dependent variable). The second model proposed (Figure 3) described the partial mediation of PV, taking into account the direct and indirect effects of the independent variable (emotions) and the dependent variable (satisfaction). Appendix 4 shows the results of the two models, and the $\chi^2$ difference test, which was significant, indicated that the model of partial mediation obtained better results $[\Delta\chi^2 (68) = 607.067, p = 0.000]$. Therefore, it can be concluded that the PV had a partial mediating effect between emotions (positive and negative) and satisfaction, both for research shoppers and one-stop shoppers.

### 4.2 Moderating effect of webrooming and showroaming

To contrast the hypotheses about the moderating effect of webrooming vs showroaming, we performed a multigroup analysis distinguishing two groups: webroomers (217 respondents) and showroomers (44 respondents). The statistical power obtained was 45.3 per cent.
(G*Power 3.1 software). Without being an optimal value, it exceeded the minimum desirable limits (Cohen, 1988; Bono and Arnau, 1995), indicating that an effect such as the proposed one will be detected 45.3 per cent of the times.

The results (Figure 4 and Appendix 3) indicated that emotions influenced PV and satisfaction, and that this influence was significantly greater in the case of webrooming than in the case of showrooming; although only for negative emotions (no significant differences were observed for positive emotions). Therefore, H4b and H5b were confirmed, whereas there was no evidence to confirm H4a and H5a. The results also indicated the possible influence of PV on satisfaction. However, no significant differences were observed between the two groups of customers assessed, so there was no evidence to accept H6.

To determine whether the PV had total mediation effect (Appendix 5) or partial mediation effect (Figure 4), we compared the two models using SEM. The results illustrated in Appendix 5 and the $\chi^2$ difference test indicated that the partial mediation model obtained better results [$\Delta \chi^2 (68) = 381.244, p = 0.000$]. Therefore, it can be concluded that PV had a partial mediating effect between emotions (positive and negative) and satisfaction, both for webroomers and showroomers.

5. Conclusions
The goal of the present study was to determine whether research shopping and its basic types – i.e. webrooming and showrooming – had a moderating effect on the intensity of the relationship between emotions, PV and satisfaction.

Although several studies have addressed the impact of research shopping on the volume of purchases made by the customers, or other quantitative measures of behavior, the literature focused on its influence on the variables of cognitive-affective type is much scarcer, even though their analysis is necessary in the current retail environment to achieve customer engagement.

There is no consensus on the variables that compose the cognitive-affective model, given that emotions and PV are a priority research area in the OCR literature, and that together with satisfaction, they are considered a precedent of the engagement that contributes to

<table>
<thead>
<tr>
<th>GOODNESS-OF-FIT</th>
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<tbody>
<tr>
<td>SB$\chi^2$(1050) = 1830.7358</td>
</tr>
<tr>
<td>$p = 0.000$</td>
</tr>
</tbody>
</table>

Notes: *$p < 0.10$; **$p < 0.05$; ***$p < 0.001$
increase the value (economic and relational) of retail companies (Kwon et al., 2016; Son and Qu, 2017). However, we decided to use a cognitive-affective model that relates these three variables.

The present study allowed us to reach different conclusions. In the first place, it was possible to observe how positive emotions had a significantly greater positive direct impact in the case of research shopping than in the case of one-stop shopping, both on the PV (FV and SV) and satisfaction. In addition, the relationship between PV and satisfaction was more intense and positive in the case of research shoppers. Although negative emotions also negatively influenced PV and satisfaction, no differences were observed between the two groups of customers assessed. In any case, the influence of negative emotions on PV and satisfaction was lower than the influence of positive emotions.

Taking into account these results, it seems that enhancing the hedonic (positive emotional experiences) and functional dimensions (utilitarian experiences) of the offline and online channels turned out to be a condition for satisfying research shoppers. The development of these two dimensions will help these customers – with greater association to the central information processing route – receive a more complete shopping experience in their interactions with retailers.

The results also indicated that the PV had a partial mediating effect between emotions (positive and negative) and satisfaction, both for research shoppers and one-stop shoppers. Current customers consider the functional aspects of PV as a commodity, and not providing these attributes can result in a loss of sales volume for retailers (Nielsen, 2017). Satisfaction of research shoppers is obtained by not only increasing the PV (functional and social) but also experiences that surpass their expectations in all the offline and online touchpoints.

Second, with respect to the assessment of webrooming vs showrooming, the PV had a partial mediating effect between emotions (positive and negative) and satisfaction for the two groups of customers. The results indicated that in the case of webrooming, negative emotions had a more intense direct negative effect on PV (FV and SV) and satisfaction than in the case of showrooming. In addition, the results also indicated the positive influence of PV on satisfaction; however, no significant differences were observed between the two groups of customers assessed. On the other hand, although positive emotions also influenced the PV and satisfaction in a positive manner, there were no differences between webrooming and showrooming. In any case, the influence of positive emotions on PV and satisfaction was lower than that of negative emotions.

In the specific case of buying smartphones, webroomers had a free-riding behavior. These customers, characterized by having a less impulsive buying behavior and being more associated with the central information processing route than showroomers, considered the internet as a suitable source of information that could be used to reduce the risks associated with the purchase of this type of product. They also considered physical stores – where they finally bought the products – as the channel that served to complete or improve the information. If the internet did not provide the right information to form a specific opinion, the products were not available in the salesrooms or the sales staff did not resolve doubts, the expectations that they had were not met, thus having a negative impact on their satisfaction. In this sense, the status of research shoppers had a positive influence on the use of ICTs, which allowed them to discuss their shopping experiences with other individuals, especially if they were negative (Frijda, 1988; López-López et al., 2014).
6. Managerial implications

Although the terms “omnichannel shopper” or “research shopper” are often used in the academic literature and in the professional language, associated with a type of buyers who use multiple offline and online touchpoints to interact with the companies and who are homogeneous in terms of their characteristics, the present study was able to confirm that within these generic labels, there are currently at least two differentiated behaviors toward which marketing strategies should be directed, specifically those related to the generation of experiences and emotions.

In the case of webroomers, retailers should take care of their presence on the internet. They should ensure that their websites are usable, exhibiting an intuitive and visually attractive content structure, being indexable, sociable and with a responsive design aimed at providing complete information about products. Inside the physical stores, it would be interesting to make efforts aimed at increasing the length of stay of webroomers, given that, in broad terms, they arrive at the salesrooms with a very specific idea of what they want to buy.

Some strategies that can be applied are the provision of personalized attention to enhance cross-selling and up-selling, good after-sales services and the incorporation of in-store ICTs so that the sellers can provide comparisons or additional online information. This way, customers will receive a more complete and differentiating shopping experience, being able to test the products in different scenarios (Mosquera et al., 2018).

Showroomers could be an opportunity for retailers. Their more impulsive buying behavior leads, with greater probability, to finally buy higher-priced products, at least those considered hedonic (Kushwaha and Shankar, 2013), although they then look for the distributors that have lower prices for that price-quality schema (Gensler et al., 2017). Therefore, the recommendations in this case would be essential, because the retailers would encourage their sales forces to take the initiative in the physical stores and show these buyers the products for which the companies are well positioned with respect to prices. This way, if desired, buyers would acquire these products in any of the virtual touchpoints of the retailers. In addition, retailers should highlight the possible advantages that the customers might have by acquiring the products in the physical store instead of acquiring them online.

It is worth reflecting whether, in spite of the current existence of these two types of customers (webroomers and showroomers), their differences will be diluted in the future, and a single category of customer will be considered. In any case, if the behaviors tend to converge or, on the contrary, new and differentiated behaviors appear, the future of the retailing sector will be characterized by omnichannelity (von Briel, 2018).

The strategy should be linked to a deep orientation toward customers and managing the offline and online channels together to provide a holistic experience. Retailers should build an “omni brand”, because current customers – defined as “channel agnostic”, because they have less and less propensity to use a single channel during their shopping journey – do not want to interact with the channels but with the brands and also want to receive global solutions (Mosquera et al., 2018).

7. Limitations and future lines of research

Among the most important limitations of the present study, it is worth mentioning that only the cognitive-affective consequences have been analyzed using three variables (emotions, PV and satisfaction), given that there are other dimensions that may be the subject of future studies. Also, due to the fact that the study of the moderating effect of the two types of research shopping (webrooming and showromming) on the relationship between emotions,
PV and satisfaction obtained a low index of statistical power (45.3 per cent), the results should be interpreted with some caution.

Future research could be aimed at conducting a joint study to assess the drivers that influence the development of research shopping and, as a consequence, the effects of such behavior on companies. Likewise, it would be interesting to study other retail sectors to evaluate whether the variables studied produce the same results. This would be the case of textile products, fashion, footwear, sports equipment, technical consumer goods, beauty and other goods/services in the luxury market, where there is a high degree of OCR implementation (GfK, 2017). It would also be relevant to assess the fast-moving consumer goods sector; although currently it has a low e-commerce index, it is expected that such rates will increase due to the challenge that traditional retailers have faced with the arrival of companies such as Amazon, traditionally called “pure players” (Nielsen, 2017).

Note

1. In this case, we decided to use a 10-point scale because, after analyzing the results of the pre-test performed before preparing the last version of the questionnaire, it was found that including the value 0 gave rise to doubts in the answers of the participants. The respondents understood that the value 0 indicated not having used any channel.

References


### Appendix 1

<table>
<thead>
<tr>
<th>Table AI. Descriptive statistics</th>
<th>Sample</th>
<th>Research shoppers</th>
<th>One-stop shoppers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>636 (100.00%)</td>
<td>261 (41.04%)</td>
<td>375 (58.96%)</td>
</tr>
<tr>
<td></td>
<td>Webroomers</td>
<td>Showroomers</td>
<td>Offline shoppers</td>
</tr>
<tr>
<td></td>
<td>217 (83.14%)</td>
<td>44 (16.86%)</td>
<td>331 (88.27%)</td>
</tr>
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**Gender**

<table>
<thead>
<tr>
<th></th>
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<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>303 (47.60%)</td>
<td>333 (52.40%)</td>
</tr>
<tr>
<td>Female</td>
<td>129 (49.43%)</td>
<td>132 (50.57%)</td>
</tr>
<tr>
<td></td>
<td>109 (50.23%)</td>
<td>108 (49.77%)</td>
</tr>
<tr>
<td></td>
<td>20 (45.45%)</td>
<td>24 (54.55%)</td>
</tr>
<tr>
<td></td>
<td>174 (46.40%)</td>
<td>179 (54.08%)</td>
</tr>
<tr>
<td></td>
<td>152 (45.92%)</td>
<td>22 (50.00%)</td>
</tr>
</tbody>
</table>

**Age**

<table>
<thead>
<tr>
<th></th>
<th>15-24 years</th>
<th>25-44 years</th>
<th>45-64 years</th>
<th>&gt;65 years</th>
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<tr>
<td>Male</td>
<td>81 (12.70%)</td>
<td>281 (44.20%)</td>
<td>169 (26.60%)</td>
<td>105 (16.50%)</td>
</tr>
<tr>
<td></td>
<td>50 (19.16%)</td>
<td>145 (55.56%)</td>
<td>110 (50.69%)</td>
<td>16 (6.13%)</td>
</tr>
<tr>
<td></td>
<td>46 (21.20%)</td>
<td>110 (50.69%)</td>
<td>46 (21.20%)</td>
<td>15 (6.91%)</td>
</tr>
<tr>
<td></td>
<td>4 (9.09%)</td>
<td>35 (79.55%)</td>
<td>4 (9.09%)</td>
<td>1 (2.27%)</td>
</tr>
<tr>
<td>Female</td>
<td>129 (49.43%)</td>
<td>132 (50.57%)</td>
<td>108 (49.77%)</td>
<td>109 (50.23%)</td>
</tr>
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<td>20 (45.45%)</td>
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<td>174 (46.40%)</td>
<td>179 (54.08%)</td>
<td>179 (54.08%)</td>
<td>152 (45.92%)</td>
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<tr>
<td></td>
<td>152 (45.92%)</td>
<td>22 (50.00%)</td>
<td>22 (50.00%)</td>
<td>22 (50.00%)</td>
</tr>
</tbody>
</table>

|          | 46 (21.20%) | 110 (50.69%) | 119 (31.73%) |
|          | 4 (9.09%)   | 35 (79.55%)  | 115 (34.74%) |
|          | 1 (2.27%)   | 129 (44.20%) | 88 (26.59%)  |

|          | 109 (50.23%)| 152 (45.92%) | 115 (34.74%) |
|          | 20 (45.45%) | 22 (50.00%)  | 4 (9.09%)    |
|          | 174 (46.40%)| 179 (54.08%) | 119 (31.73%) |
|          | 152 (45.92%)| 22 (50.00%)  | 4 (9.09%)    |
|          | 22 (50.00%) | 22 (50.00%)  | 4 (9.09%)    |
## Appendix 2

### Reliability and validity

<table>
<thead>
<tr>
<th>Items</th>
<th>Loadings (t-value)</th>
<th>Mean</th>
<th>SD</th>
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</thead>
<tbody>
<tr>
<td><strong>Emotions</strong> Laros and Steenkamp (2005); Smith and Bolton (2002); White and Yu (2005)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Emotions (PEM)</td>
<td>$\alpha = 0.959$; CR = 0.959; AVE = 0.824</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Referring to the experience during the shopping journey, say which one of these emotions reflects how you felt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delighted</td>
<td>0.929 (38.159)</td>
<td>5.13</td>
<td>2.52</td>
</tr>
<tr>
<td>Glad</td>
<td>0.931 (36.275)</td>
<td>5.45</td>
<td>2.49</td>
</tr>
<tr>
<td>Happy</td>
<td>0.947 (40.834)</td>
<td>5.01</td>
<td>2.53</td>
</tr>
<tr>
<td>Excited</td>
<td>0.895 (35.838)</td>
<td>5.41</td>
<td>2.70</td>
</tr>
<tr>
<td>Pleased</td>
<td>0.831 (30.814)</td>
<td>5.43</td>
<td>2.64</td>
</tr>
<tr>
<td>Negative Emotions (NEM)</td>
<td>$\alpha = 0.935$; CR = 0.941; AVE = 0.765</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frustrated</td>
<td>0.858 (25.527)</td>
<td>2.97</td>
<td>2.48</td>
</tr>
<tr>
<td>Angry</td>
<td>0.958 (27.650)</td>
<td>2.77</td>
<td>2.42</td>
</tr>
<tr>
<td>Annoyed</td>
<td>0.968 (29.757)</td>
<td>2.78</td>
<td>2.43</td>
</tr>
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<td>Distressed</td>
<td>0.898 (23.080)</td>
<td>2.58</td>
<td>2.35</td>
</tr>
<tr>
<td>Bored</td>
<td>0.654 (18.053)</td>
<td>3.29</td>
<td>2.73</td>
</tr>
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<td><strong>PV</strong> Fandos et al. (2006); Moliner et al. (2005); Sánchez et al. (2006); Sweeney and Soutar (2001)</td>
<td>$\alpha = 0.890$; CR = 0.936; AVE = 0.879</td>
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</tr>
<tr>
<td>FV</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The <em>Retailer X</em> provides services correct as a whole</td>
<td>6.59</td>
<td>1.95</td>
<td></td>
</tr>
<tr>
<td>The <em>Retailer X</em> has a qualified salesforce, they know their job well</td>
<td>6.75</td>
<td>2.20</td>
<td></td>
</tr>
<tr>
<td>The <em>Retailer X</em> provides correct quality-price ratio</td>
<td>0.965 (15.132)</td>
<td>6.14</td>
<td>2.14</td>
</tr>
<tr>
<td>SV</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The <em>Retailer X</em> has a positive social image</td>
<td>6.92</td>
<td>1.88</td>
<td></td>
</tr>
<tr>
<td>The <em>Retailer X</em> has a good image for my friends and relatives</td>
<td>6.54</td>
<td>2.06</td>
<td></td>
</tr>
<tr>
<td>The <em>Retailer X</em> has a positive image for me, considering all the items specified above</td>
<td>0.926 (23.491)</td>
<td>6.71</td>
<td>2.10</td>
</tr>
<tr>
<td><strong>SATISFACTION (SAT)</strong> Bloemer and Odekerken-Schroder (2002); Oliver (1999)</td>
<td>$\alpha = 0.938$; CR = 0.941; AVE = 0.800</td>
<td></td>
<td></td>
</tr>
<tr>
<td>After shopping at the <em>Retailer X</em>, I am happy in my choice</td>
<td>0.898 (30.335)</td>
<td>6.45</td>
<td>2.13</td>
</tr>
<tr>
<td>After shopping at the <em>Retailer X</em>, I think I have made the right choice</td>
<td>0.945 (34.040)</td>
<td>6.38</td>
<td>2.22</td>
</tr>
<tr>
<td>In general, I am satisfied with the <em>Retailer X</em></td>
<td>0.803 (24.709)</td>
<td>5.54</td>
<td>2.33</td>
</tr>
<tr>
<td>0.925 (33.728)</td>
<td>6.40</td>
<td>2.23</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:** Participants responded using a 11-point Likert scale: 0 = completely disagree and 10 = completely agree; $\alpha$: Cronbach’s alpha; CR: composite reliability; AVE: average variance extracted

---

Table AII. Reliability and validity
### Table AIII.
Research shopping measurement (Question I)

<table>
<thead>
<tr>
<th>Items</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESEARCH SHOPPING BEHAVIOR (RSB)</td>
<td></td>
</tr>
<tr>
<td>Referring to the shopping journey, say which one of these sentences more closely reflects your buying behavior</td>
<td></td>
</tr>
<tr>
<td>I used just a single channel (physical store or the internet) during my shopping journey</td>
<td>59.00</td>
</tr>
<tr>
<td>I used physical store and the Internet during the shopping journey</td>
<td>41.00</td>
</tr>
</tbody>
</table>

### Table AIV.
Research shopping measurement (Question II)

<table>
<thead>
<tr>
<th>Items</th>
<th>Yes (%)</th>
<th>No (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFORMATION SOURCES (IS)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Referring to the shopping journey, say which of these sources you used for searching for information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OFFLINE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobile phone manufacturer’s stores (e.g. Apple Store)</td>
<td>14.78</td>
<td>85.22</td>
</tr>
<tr>
<td>Telecom stores (Movistar Store, Vodafone Store . . .)</td>
<td>76.26</td>
<td>23.74</td>
</tr>
<tr>
<td>Category-killers (e.g. FNAC, Media Markt . . .)</td>
<td>25.94</td>
<td>74.06</td>
</tr>
<tr>
<td>Department stores (e.g. El Corte Ingles)</td>
<td>23.11</td>
<td>76.89</td>
</tr>
<tr>
<td>Others (friends, relatives, catalogues . . .)</td>
<td>16.51</td>
<td>83.49</td>
</tr>
<tr>
<td>ONLINE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobile phone manufacturer’s stores (e.g., Apple Online Store)</td>
<td>27.79</td>
<td>72.21</td>
</tr>
<tr>
<td>Telecom stores (Movistar Online Store, Vodafone Online Store . . .)</td>
<td>40.88</td>
<td>59.12</td>
</tr>
<tr>
<td>Category-killers (e.g. FNAC, Media Markt . . .)</td>
<td>15.09</td>
<td>84.91</td>
</tr>
<tr>
<td>Department stores (e.g. El Corte Ingles Online Store)</td>
<td>12.58</td>
<td>87.42</td>
</tr>
<tr>
<td>Others (social media, blogs, shopbots . . .)</td>
<td>12.11</td>
<td>87.89</td>
</tr>
<tr>
<td>SHOPPING PLACE (SP)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Say which one of these places you chose to purchase your mobile phone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OFFLINE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobile phone manufacturer’s stores (e.g. Apple Store)</td>
<td>1.73</td>
<td>98.27</td>
</tr>
<tr>
<td>Telecom stores (Movistar Store, Vodafone Store . . .)</td>
<td>67.30</td>
<td>32.70</td>
</tr>
<tr>
<td>Category-killers (e.g. FNAC, Media Markt . . .)</td>
<td>4.25</td>
<td>95.75</td>
</tr>
<tr>
<td>Department stores (e.g. El Corte Ingles)</td>
<td>6.92</td>
<td>93.08</td>
</tr>
<tr>
<td>Others (friends, relatives, thrift shop . . .)</td>
<td>7.08</td>
<td>92.92</td>
</tr>
<tr>
<td>ONLINE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobile phone manufacturer’s stores (e.g. Apple Online Store)</td>
<td>1.57</td>
<td>98.43</td>
</tr>
<tr>
<td>Telecom stores (Movistar Online Store, Vodafone Online Store . . .)</td>
<td>11.01</td>
<td>88.99</td>
</tr>
<tr>
<td>Category-killers (e.g. FNAC, Media Markt . . .)</td>
<td>0.31</td>
<td>99.69</td>
</tr>
<tr>
<td>Department stores (e.g. El Corte Ingles Online Store)</td>
<td>0.31</td>
<td>99.69</td>
</tr>
<tr>
<td>Others (social media, eBay . . .)</td>
<td>1.73</td>
<td>98.27</td>
</tr>
<tr>
<td>Item</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>------</td>
<td>------</td>
<td>----</td>
</tr>
<tr>
<td><strong>RESEARCH SHOPPING Behavior (RSB2)</strong>&lt;br&gt;Referring to the shopping journey, of this pair of sentences, say which one more closely reflects your buying behavior&lt;br&gt;“I searched for information and purchased the mobile phone using just a single channel (physical store or the Internet)” and “I searched for information and purchased the mobile phone using multiple channels (physical store and the internet)”</td>
<td>2.50</td>
<td>2.25</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>NEM</th>
<th>PEM</th>
<th>PV</th>
<th>SAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEM</td>
<td>0.875</td>
<td>−0.337, −0.069</td>
<td>−0.364, −0.132</td>
<td>−0.424, −0.088</td>
</tr>
<tr>
<td>PEM</td>
<td>−0.203***</td>
<td>0.908</td>
<td>(0.397, 0.697)</td>
<td>(0.437, 0.599)</td>
</tr>
<tr>
<td>PV</td>
<td>−0.248***</td>
<td>0.547***</td>
<td>0.938</td>
<td>(0.779, 0.969)</td>
</tr>
<tr>
<td>SAT</td>
<td>−0.256***</td>
<td>0.513***</td>
<td>0.868***</td>
<td>0.895</td>
</tr>
</tbody>
</table>

**Notes:** The data in bold and on the diagonal are the AVE of each concept. The data below the diagonal correspond to the squared correlations between pairs of constructs. The confidence intervals of all the correlations between the concepts are above the diagonal (italics). There is discriminant validity, given that the confidence intervals of all the correlations between the concepts analyzed did not contain the unit value and its squared value did not exceed the AVE of the measurement scales considered. *p < 0.10; **p < 0.05; ***p < 0.001

**Table AV.**<br>Research shopping behavior (Question III)

**Table AVI.**<br>Webrooming and showrooming measurement

**Table AVII.**<br>Discriminant validity
### Table AVIII.
Multigroup analysis – research shopping versus one-stop shopping

<table>
<thead>
<tr>
<th>Constraints</th>
<th>Chi-square</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>$H1a$: EMP $\rightarrow$ VP</td>
<td>1.699</td>
<td>0.025</td>
</tr>
<tr>
<td>$H1b$: EMN $\rightarrow$ VP</td>
<td>0.350</td>
<td>0.145</td>
</tr>
<tr>
<td>$H2a$: EMP $\rightarrow$ SAT</td>
<td>1.154</td>
<td>0.045</td>
</tr>
<tr>
<td>$H2b$: EMN $\rightarrow$ SAT</td>
<td>0.255</td>
<td>0.150</td>
</tr>
<tr>
<td>$H3$: VP $\rightarrow$ SAT</td>
<td>2.670</td>
<td>0.067</td>
</tr>
</tbody>
</table>

### Table AIX.
Multigroup analysis – webrooming versus showrooming

<table>
<thead>
<tr>
<th>Constraints</th>
<th>Chi-square</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>$H4a$: EMP $\rightarrow$ VP</td>
<td>0.199</td>
<td>0.122</td>
</tr>
<tr>
<td>$H4b$: EMN $\rightarrow$ VP</td>
<td>5.960</td>
<td>0.032</td>
</tr>
<tr>
<td>$H5a$: EMP $\rightarrow$ SAT</td>
<td>0.607</td>
<td>0.115</td>
</tr>
<tr>
<td>$H5b$: EMN $\rightarrow$ SAT</td>
<td>3.021</td>
<td>0.082</td>
</tr>
<tr>
<td>$H6$: VP $\rightarrow$ SAT</td>
<td>1.697</td>
<td>0.136</td>
</tr>
</tbody>
</table>
**Figure A1.** Full mediation model results (research shopping versus one-stop shopping)

**Notes:** *p < 0.10; **p < 0.05; ***p < 0.001

### Table AX.

<table>
<thead>
<tr>
<th></th>
<th>Research shoppers</th>
<th>One-stop shoppers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Standardized path coefficients (t-values)</td>
<td>Standardized path coefficients (t-values)</td>
</tr>
<tr>
<td>EMP $\rightarrow$ VP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FMM</td>
<td>0.466*** (8.474)</td>
<td>0.423*** (8.024)</td>
</tr>
<tr>
<td>PMM</td>
<td>0.523*** (9.654)</td>
<td>0.479*** (7.310)</td>
</tr>
<tr>
<td>EMN $\rightarrow$ VP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FMM</td>
<td>-0.325** (-2.816)</td>
<td>-0.307** (-2.579)</td>
</tr>
<tr>
<td>PMM</td>
<td>-0.305** (-2.538)</td>
<td></td>
</tr>
<tr>
<td>VP $\rightarrow$ SAT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FMM</td>
<td>0.879*** (12.860)</td>
<td>0.789*** (10.256)</td>
</tr>
<tr>
<td>PMM</td>
<td>0.869*** (12.978)</td>
<td>0.802*** (10.060)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>$\chi^2$ (df)</th>
<th>BNNFI</th>
<th>CFI</th>
<th>IFI</th>
<th>RMSEA</th>
<th>SRMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>FMM</td>
<td>2,524.519 (1,190)</td>
<td>0.939</td>
<td>0.940</td>
<td>0.945</td>
<td>0.052</td>
<td>0.055</td>
</tr>
<tr>
<td>PMM</td>
<td>1,917.452 (1,122)</td>
<td>0.946</td>
<td>0.946</td>
<td>0.945</td>
<td>0.152</td>
<td>0.155</td>
</tr>
</tbody>
</table>

**Notes:** FMM: full mediation model; PMM: partial mediation model; *p < 0.10; **p < 0.05; ***p < 0.001

---

### Appendix 4

![Diagram of the full mediation model](image_url)
Appendix 5

CONSUMPTION EMOTIONS (POSITIVES AND NEGATIVES)

PERCEIVED VALUE
\( R^2 = 0.196 \)

Webrooming vs. Showrooming

\( (0.201^*) \) \((0.182^*)\)
\((-0.291^{**}) \((-0.133^{**})\)

SATISFACTION
\( R^2 = 0.244 \)

Figure A2.
Full mediation model results (webrooming versus showrooming)

Notes: * \( p < 0.10 \); ** \( p < 0.05 \); *** \( p < 0.001 \)

Table AXI.
Results of SEM for full mediation and partial mediation models of PV

<table>
<thead>
<tr>
<th></th>
<th>WEBROOMERS Standardized path coefficients (( t )-values)</th>
<th>SHOWROOMERS Standardized path coefficients (( t )-values)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMP → VP</td>
<td>0.201* (1.687)</td>
<td>0.182* (1.604)</td>
</tr>
<tr>
<td>FMM</td>
<td>0.187* (1.570)</td>
<td>0.170* (1.602)</td>
</tr>
<tr>
<td>PMM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMN → VP</td>
<td>-0.291** (−1.906)</td>
<td>-0.133** (−1.980)</td>
</tr>
<tr>
<td>FMM</td>
<td>-0.258** (−1.972)</td>
<td>-0.147** (−1.660)</td>
</tr>
<tr>
<td>PMM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VP → SAT</td>
<td>0.369** (2.615)</td>
<td>0.209** (2.566)</td>
</tr>
<tr>
<td>FMM</td>
<td>0.394** (2.574)</td>
<td>0.282** (2.364)</td>
</tr>
<tr>
<td>PMM</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

GOODNESS-OF-FIT

<table>
<thead>
<tr>
<th></th>
<th>( \chi^2 ) (df)</th>
<th>BNNFI</th>
<th>CFI</th>
<th>IFI</th>
<th>RMSEA</th>
<th>SRMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>FMM</td>
<td>2,353.748 (1,190)</td>
<td>0.900</td>
<td>0.898</td>
<td>0.904</td>
<td>0.080</td>
<td>0.150</td>
</tr>
<tr>
<td>PMM</td>
<td>1,972.504 (1,122)</td>
<td>0.903</td>
<td>0.904</td>
<td>0.904</td>
<td>0.077</td>
<td>0.149</td>
</tr>
</tbody>
</table>

Notes: FMM: full mediation model; PMM: partial mediation model; * \( p < 0.10 \); ** \( p < 0.05 \); *** \( p < 0.001 \)

Corresponding author
Nuria Viejo-Fernández can be contacted at: nuriavf@uniovi.es

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Abstract

**Purpose** – This paper aims to investigate advertising effectiveness in Instagram and Facebook, the two most important social media platforms. It helps to understand which should be chosen depending on the target audience of the campaign.

**Design/methodology/approach** – The study examines advertising effectiveness in these social media in terms of ad attitude, ad intrusiveness and loyalty intentions. An online survey was conducted with 303 social media users. Age and gender are proposed as moderators.

**Findings** – The results indicate that Instagram Stories not only enhances consumer attitude toward ads but also increases perceived intrusiveness, compared to Facebook Wall. Millennials are more disturbed by Facebook Wall ads than non-millennial users. A triple interaction effect reveals that non-millennial men are more loyal toward Facebook Wall ads, whereas millennials of both genders and non-millennial women are more loyal to ads on Instagram Stories.

**Practical implications** – Advertisers should be aware of the differential features and segmentation possibilities in social media to better address their target audiences. More precisely, the research findings suggest that professionals should focus on Instagram Stories when targeting millennials and non-millennial women, and on Facebook Wall when targeting non-millennial men.

**Originality/value** – This study is one of the first to contribute to the literature on Instagram Stories as an advertising platform and compare its differential features with those of more established social media, such as Facebook Wall.

**Keywords** Ad effectiveness, Attitude toward the ad, Intrusiveness, Loyalty, Instagram Stories, Facebook

**Paper type** Research paper

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Resumen

Propósito de la investigación – Esta investigación compara la efectividad publicitaria en Instagram y Facebook en función del público objetivo.

Metodología y diseño – La investigación analiza las diferencias entre cada formato de red social en términos de actitud hacia el anuncio, intrusividad percibida y lealtad hacia el producto o marca anunciada. Mediante una encuesta online a 303 consumidores, se proponen efectos directos y efectos moderación de la edad y el género.

Recomendaciones – Los resultados indican que Instagram Stories mejora la actitud hacia el anuncio, pero aumenta también la intrusividad en comparación con Facebook Wall. La publicidad en Facebook Wall es más intrusiva para los milennials que para los no-millennials. Instagram Stories incrementa la lealtad entre los usuarios millennial de ambos sexos y las mujeres no-millennial; en cambio, los hombres no-millennials son más leales a la publicidad en Facebook Wall.

Implicaciones prácticas – Los anunciantes deben aprovechar los nuevos formatos y las posibilidades de segmentación que les brindan las redes sociales para llegar a su público objetivo de manera más efectiva. Concretamente, los hallazgos de la investigación sugieren que deberían centrarse en Instagram Stories para dirigirse a un público millennial y a mujeres no-millennial; y en Facebook Wall, cuando su público objetivo sean los hombres no-millennial.

Originalidad – Este estudio es uno de los primeros que aborda el uso de Instagram Stories como soporte publicitario y lo compara con formatos publicitarios consolidados como Facebook Wall.

Palabras clave – Efectividad publicitaria, Actitud hacia el anuncio, intrusividad, lealtad, Instagram Stories, Facebook

Tipo de artículo – Trabajo de investigación

1. Introduction

Because every media source is almost saturated by advertising messages, firms try to find new ways to address their public. This is the case with social media advertising, which is growing at over 20 per cent every year (Marinucci, 2018). Social media have proven to be interactive channels full of possibilities for enhanced audiovisual presentation of products and services, increasing users’ control of their advertising experiences and offering more attractive and sophisticated forms of digital advertising than traditional mass media (Li and Lo, 2015; Pashkevich et al., 2012).

Instagram Stories, launched in August 2016, is probably the most salient and innovative recent social media development. Stories is an Instagram feature, which operates also on other platforms, such as Snapchat, that allows users to upload ephemeral contents (photos, short videos and live stream transmission), which remain on the network for only 24 h. In terms of design and appearance, and distinct from most social media walls, where users have to scroll down, Stories are presented on the whole screen for 15 s. Each story (i.e. message, video, picture or image featured, with animated effects) is followed by another story, and the user has the control to go back and forth to the previous and next stories in a time-sequenced order. In turn, advertisers present their ads within the Stories feature, that is, as an additional story with the same design as the stories created by users, but labeled as “advertising” on the top left of the screen. As is usual in other social media ad formats, the advertised content allows users to click on it to access more information on a brand profile, the information search being an important part of the shopping decision process (Flavián et al., 2009).

The differential features of innovative advertising formats, such as Instagram Stories, might enhance the success of a social media advertising campaign. Nevertheless, novel advertising with improved interactive options will not be useful for advertisers if the format is unable to attract consumers and to provide greater advertising effectiveness than alternative social media advertising formats (Belanche et al., 2017a; Tan et al., 2018). In such multifaceted advertising ecosystems, advertisers need to choose between the different social
media to place advertising campaigns effectively and efficiently (Pikas and Sorrentino, 2014). Faced with the need to invest limited budgets in social media platforms in the absence of a clear criterion, advertising professionals need guidance to make their investment choices. As an additional element to be considered, each advertising campaign has concrete objectives based on reaching a specific target audience (e.g. in terms of age or gender), that will be best achieved by placing the ads on the appropriate social media.

Previous literature has focused on Facebook as the prototypical leading social medium and found that ads on that platform enhance brand image and brand equity by leveraging eWOM (Dehghani and Tumer, 2015), but it also raises intrusiveness concerns (Lin and Kim, 2016). In turn, recent research shows that newer social media platforms, such as Snapchat or Instagram, are powerful tools for increasing brand reputation and for reaching younger audiences (Sashittal et al., 2016; Barry et al., 2016). However, the scant research comparing advertising across social media platforms does not consider the distinctive features of the newer social media formats (Pikas and Sorrentino, 2014), it focuses exclusively on enhancing consumer engagement on social media (Ashley and Tuten, 2015; Voorveld et al., 2018), and does not compare specific measures of advertising effectiveness across platforms.

Given both the importance of examining the growing social media format of Instagram Stories as a marketing tool, and the need to evaluate its advertising effectiveness compared to established social media platforms or formats, there is an urgent need to investigate this research gap. Thus, considering the existing opportunities for the management of online advertising campaigns, our research contributes to a better understanding of current social media formats. Specifically, this study helps to provide answers to basic questions for advertisers, such as which social media should be chosen to increase the effectiveness of an advertising campaign, or whether this effectiveness depends on the characteristics of the target audience.

To address these issues, and taking account of previous research on online advertising (Ljepava et al., 2013; Phua et al., 2017; Sheldon and Bryant, 2016), this work compares advertising effectiveness between the two most popular social media platforms, Instagram Stories and Facebook Wall. On the one hand, Facebook is a paradigmatic social network which continues to be the number one social platform, with 2,200 million active users monthly (Kallas, 2018), and an advertising revenue of 6,820 million (US$), increasing by 59 per cent since 2015 (Leibowitz, 2018). On the other hand, Instagram is the social media with the greatest growth in Western countries, such as Spain (Constine, 2018), with more than 800 million active users worldwide, and more than 1 million advertisers (Leibowitz, 2018). Instagram is not only one of the fastest-growing social media, but is a social virtual space where individuals like to spend time (Sheldon and Bryant, 2016); visitors stay 45 per cent longer than on Facebook, and 40 per cent longer than on Twitter (Alter, 2018). The incredible growth of Instagram, and particularly the recent launching of Instagram Stories, demands that researchers analyze its differential features and to compare its value for advertisers to that of well-established social media formats, such as Facebook Wall. Based on reactance theory (Brehm, 1966), our research assumes there is a difference between users’ perceptions and reactions toward stationary advertising social media formats, such as Facebook Wall, and more dynamic social media formats, such as in Instagram Stories, that affects advertising effectiveness (i.e. attitude toward the ad, reduced intrusiveness and loyalty). Based on previous knowledge such as the reactance theory (Brehm, 1966), we propose that users may have a higher motivation to process ephemeral contents that allow them to freely interact with the ad, as it is the case of Instagram Stories, in contrast to static formats such as Facebook Wall that restrict the incorporation of interactive features. In addition, to better understand the phenomenon, we include Instagram Wall as a control group to assess to what extent any differences are due to type of social media or to type of format[1].
This research also aims to understand how advertising effectiveness can be improved depending on the social media platform and the target audience. Both classic advertising research and recent social media studies suggest that fundamental personal factors, such as age and gender, alter commercial information processing (Alalwan et al., 2017; Katz et al., 1974). Thus, we contribute to the understanding of new social media use by consumers based on their sociodemographic profiles and its important advertising segmentation possibilities. In doing so, we analyze to what extent advertising effectiveness in each medium is moderated by the two most important demographic variables – age and gender.

2. Literature review

The internet has changed the advertising industry. Indeed, digital platforms, involving browsers, Webpages and social media advertising have confronted the hegemonic role of television, radio and newspapers in advertising. Recent studies estimate that the percentage of advertising investment assigned to online channels will represent 44 per cent of all global advertising spending in 2018, and 50 per cent in 2020 (Handley, 2017).

The transition from traditional advertising to online channels has been motivated by consumers’ preference for digital media. Internet characteristics, such as ubiquity and immediacy, and the evolution of technological devices (e.g. smartphones) have transformed consumer habits and fostered new forms of interaction with other users, firms and content creators (Hussain and Lasage, 2014; Flavián et al., 2012). More than 3,196 million people worldwide use social media today, a number which is growing at 13 per cent every year (Cooper, 2018). The increasing use of social media to access information and entertainment helps comprehend how much information and communication technology is affecting users’ everyday lives. Social media platforms are used to connect with friends and brands (Rambe and Retumetse, 2017) and influencers (Casaló et al., 2018), and to access information about current news (Allcott and Gentzkow, 2017) and events (Grömping and Sinpeng, 2018). People spend more time on social media than watching television; on average, 50 per cent of the planet’s population use Facebook daily, while only 39 per cent watch television (Cooper, 2018). In addition, four of every ten internet users say they follow their favorite brands on social media (GlobalIndex, 2018). However, users’ concerns about the lack of privacy in social media (Jung, 2017), and about the inappropriate use of their data for commercial purposes (Allcott and Gentzkow, 2017), are challenging perceptions of social media, which suggests that advertisers should be careful in selecting the social media and formats to place their campaigns.

Hence, social media have altered marketing communications by shifting the ways in which consumers select, share and appraise information (Sheldon and Bryant, 2016). In other words, social media is emerging as a major advertising vehicle in modern society (Jung, 2017). Indeed, these networking platforms base their business models on online advertising (Belanche et al., 2017b); it is a prosperous business that increases its revenues over 20 per cent annually (Marinucci, 2018). From this developing digital environment based on advertising income, a wide universe of opportunities emerges to increase ad effectiveness. Indeed, social media today play a key role in determining advertising effectiveness; these platforms are now considered the main source of information during the purchase decision-making process (Hamilton et al., 2016; Zhu et al., 2016; Erkan and Evans, 2016). Nevertheless, social media advertising is also criticized for the increasing annoyance it causes users during navigation (Voorveld et al., 2018). Several recent studies suggest that consumer perceptions of online advertising are becoming increasingly negative, certain formats being considered intrusive by consumers (Chatterjee, 2008; Rotfeld, 2006; Truong and Simmons, 2010). In addition, advertisers often believe that some social media ads are ineffective, and that constantly surrounding consumers by a wide quantity of intrusive
commercial information does not guarantee their attention (Pikas and Sorrentino, 2014). For example, recent research found that students do not pay much attention to Facebook advertisements (Rambe and Retumetse, 2017). Thus, there is a need to better understand consumers’ perceptions of ads on the various social media formats to help managers choose the most effective in advertising terms.

2.1 Ad effectiveness
Advertising effectiveness has been a goal for advertisers and a topic of research interest among advertising scholars in the past decades (Danaher, 2017). Previous literature in this field has found that consumers’ attitudes toward an ad, intrusiveness and loyalty are the three key variables related to advertising effectiveness in the digital context (Ashley and Tuten, 2015; Goodrich et al., 2015; Belanche et al., 2017a).

Attitude is the main driver of consumer volitional behavior (Eagly and Chaiken, 1993). Thus, in a communication setting, attitude toward an ad is one of the best indicators of ad effectiveness (Goldsmith et al., 2000). Attitude toward the ad has been defined as “a predisposition to respond in a favorable or unfavorable manner to a particular advertising stimulus during a particular exposure occasion” (Lutz, 1985; p. 53). According to the literature on persuasion, generating favorable attitudes towards an ad is fundamental to make consumers, at least, consider the advertised products and services. Thus, creating a favorable predisposition in the viewer toward an ad may be crucial for attracting and engaging consumers (Bright and Daugherty, 2012).

Ad intrusiveness is defined as “the degree to which advertisements in a media vehicle interrupt the flow of an editorial unit” (Ha, 1996; p. 77). More specifically, the Internet is a goal-oriented medium where advertisements can be perceived by users as more intrusive than in other media (Cho and Cheon, 2004). Thus, perceptions of intrusiveness might be categorized as a negative marketing consequence linked to users’ irritation and brand avoidance but may also increase the likelihood of abandoning the online platform (Goodrich et al., 2015).

Finally, marketers’ are focusing their efforts in digital advertising on increasing campaign persuasiveness to increase consumers’ loyalty to their brands and products (Van Noort et al., 2012). Previous literature on advertising persuasiveness proposes purchase intention and positive word-of-mouth communication (WOM) as the main indicators of consumer loyalty (Aydin and Özer, 2005; Chi and Qu, 2008; Cronin et al., 2000; Gruen et al., 2006). The consumer journey, which starts with the recognition of the need, finishes with the purchase decision and post-purchase activities (Puccinelli et al., 2009; Yadav et al., 2013). Thus, intention to purchase is an important indicator of the persuasive effectiveness of social media in terms of loyalty (Dehghani and Tumer, 2015). An additional sign of loyalty traditionally researched by advertising scholars is the intention to engage in positive word-of-mouth (WOM) (Chen et al., 2014; Chu and Kim, 2018); loyal consumers tend to recommend the brand to motivate subsequent purchase decisions by other consumers (De Bruyn and Lilien, 2008; Lopez and Sicilia, 2014).

2.2 Development of hypotheses
Following previous studies (Auschaitrakul and Mukherjee, 2017), our research proposes that each platform and its associated features act as contextual factors influencing consumers’ perceptions of, and intentions toward, the ads presented during navigation. In other words, social media may affect advertising persuasiveness because the navigating experience (i.e. distinctive features) on each media can exert an influence on the consumer’s susceptibility to be persuaded.

2.2.1 The influence of social media platforms. Instagram started as a social media platform where users could edit photographs and short videos with filters to share on
their profiles. Compared to Facebook, which is more focused on information exchange and networking (Sheldon and Bryant, 2016), Instagram is more focused on personal self-promotion (Marcus, 2015) and enjoyment (Casaló et al., 2017a) in the social domain. Instagram makes it possible to have ephemeral relationships in a highly user-controlled environment (Sheldon and Bryant, 2016) where users promote themselves as personal brands. Expanding this approach, Instagram has implemented a wide range of personalization characteristics which reinforce the already existing relation between Instagram and narcissism (Buffardi and Campbell, 2008). Unlike Facebook, where advertiser content is presented in a more static and reduced space, the ads in Instagram Stories often mimic the users’ input in the use of whole screen records, tags and animated features. These two Instagram Stories trends (i.e. users employing their profiles to “advertise” their own personal brand, advertisers allowed to create more dynamic ads in a similar vein to the lively content created by users), together with the notion of immediacy and closeness of the stories, may increase perceptions of brand familiarity and favorability, and diminish the intrusiveness perception of ads presented on this media (Kim and Johnson, 2016). Furthermore, as an additional sign of how advertising is integrated into this medium, the same story used as content for followers might be used as an ad for non-followers. Thus, on the assumption that Instagram aims to be a platform useful for both personal and commercial brand promotion, users might be prone to process ads on the media more favorably than in other platforms.

Alternatively, the notion of time and its ephemeral contents are other important elements of Instagram Stories, which differ from the stable and always accessible contents in Facebook. Instagram Stories are designed around the concept of “sharing a moment” during a limited period, on just one day. This feature requires users to check their Instagram mobile apps frequently to ensure they view the content uploaded by the profiles they follow. This may motivate the viewers to process rapidly the basic elements of a story to check whether they are interested in the content and will continue to view the whole piece (Sutherland, 2014). Compared to non-skippable stable ads (such as those appearing in Facebook Wall), more interactive advertising increases the user’s motivation to process information and generate favorable evaluations of the ads (Belanche et al., 2017a; Pashkevich et al., 2012). Instagram Stories provides users and advertisers with small pieces of information via 5 s photo, 15 s video and live retransmissions that appear between stories. These basic features also help attract the user’s attention in an immersive and interactive way that, in turn, enhances persuasion (Vollmers and Mizerski, 1994) and advertising effectiveness (Lombard and Snyder-Duch, 2001).

In this vein, psychological reactance theory explains how humans react against rules that are perceived as a loss of freedom (Brehm, 1966). Psychological reactance theory has been used to explain how consumers react negatively to ads that interfere with their cognitive processes (Goodrich et al., 2015; Redondo and Aznar, 2018), especially to online advertising techniques that hinder their control of the advertising experience (Li et al., 2002). In this sense, the innovative features of Instagram Stories increase the user’s opportunities to interact with ad content (e.g. skip, stop, go back, follow a hashtag, etc.), a content that is animated and personalized by the advertiser of the brand. This might be perceived by the user as an almost unrestricted interaction with the ad when compared to the less dynamic Facebook Wall ads that may be perceived as intrusive or as threatening the user’s freedom during online navigation (Li et al., 2002). Thus, users may develop more favorable perceptions and reactions toward ads on Instagram Stories than to ads on Facebook Wall.
Consequently, we propose the first hypothesis of the study:

\[ H1. \] Compared to Facebook Wall, Instagram Stories increases ad effectiveness in terms of (a) ad attitude, (b) (reduced) ad intrusiveness and (c) loyalty.

2.2.2 The moderating effect of age. The number of studies examining age as an essential factor of customer orientation toward commercial activities has increased significantly in the past years (Alalwan et al., 2017; Cornelis and Peter, 2017; Taylor et al., 2011). Following this research stream, we distinguish between millennial and non-millennial users of social media. Although there is no consensus about the specific range, the previous literature tends to consider millennials as born between 1985 and 2000 (Pendergast, 2009; Real et al., 2010). The literature describes millennials as users who are very familiar with online media and other digital aspects of communication and purchase processes (Smith, 2011). Due to technological advancements (Deal et al., 2010), millennials and social media platforms have followed a parallel development; millennials are more accustomed to dealing with short information capsules and interactivity features (i.e. swipe, “I like” buttons, etc.) than older users (Myers and Sadaghiani, 2010). This more interactive learning experience influences how users process online advertising information (Belanche et al., 2017b). According to the limited capacity model of mediated message processing (Lang, 2000), this learned capacity influences the individual’s ability to process the information on highly dynamic social media platforms, which leads to more positive attitudes. In addition, there is also evidence that information processing capacity reduces with age (Phillips and Sternthal, 1977), which suggests that older users will have more difficulty in processing highly dynamic content (i.e. Instagram Stories) than millennials. Following overload theory (Malhotra, 1982), non-millennials’ inability to process all the commercial information presented might lead to higher levels of perceived intrusiveness (Ha, 2017).

From a complementary approach, previous studies have shown that age may affect individuals’ preferences as to how information is presented to be processed (Nguyen et al., 2017; Soroka et al., 2006). Consumers tend to value information related to product and services differently over the course of their lives. Younger people consider entertainment value the most important criterion, while older people choose media primarily based on information value (Fang et al., 2016; Phillips and Sternthal, 1977). Thus, millennials tend to look more frequently for entertainment content than non-millennials (Casaló et al., 2017b); thus, millennials may develop favorable predispositions to advertising messages presented in more dynamic and popular ways, such as those appearing in Instagram Stories (Hsieh et al., 2012).

Consequently, we propose:

\[ H2. \] The effect of social media format on ad effectiveness is moderated by age, such that (a) ad attitude, (b) (reduced) ad intrusiveness and (c) loyalty will be enhanced in Instagram Stories for millennials, and in Facebook Wall for non-millennial users.

2.2.3 The moderating effect of gender. Many studies have examined the role of gender in consumers’ orientation toward online commercial activities (Shi et al., 2016) and, more specifically, in social media use (Alalwan et al., 2017; Muscanell and Guadagno, 2012; Thelwall, 2008). Gender is considered a key segmentation variable in marketing and plays a key role in shaping consumers’ evaluation of products and services (Holbrook, 1986). These gender differences have important effects on how advertising is processed (Goodrich, 2014), with clear implications for effectiveness (Rodgers and Thorson, 2017). Previous research confirms that gender clearly alters preferences toward social media, their use, and promotional activities on

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**Instagram Stories versus Facebook Wall**
these platforms (Lebel and Danylchuk, 2012; Ragowsky and Awad, 2008). Therefore, understanding gender differences helps companies and advertisers develop more precise segmentation and marketing strategies according to value needs (Lee, 2011; Shi et al., 2016; Zhang et al., 2015).

Gender role expectation theory suggests that women tend to be more social than men, who are more focused on task-related events (Gefen and Straub, 1997; Zhou et al., 2014). In this regard, women, with their more social orientation (Sheldon and Bryant, 2016), spend more time sharing and collecting information in social media platforms than men (Acar, 2008; Sheldon, 2008). In as much as online platforms are valued for their social significance, women are more likely to be active users, commenting, following and interacting on social-focused platforms than men (Sheldon and Bryant, 2016). Given the extensive possibility of Instagram Stories as a social medium due to its numerous social interaction features (e.g. moment sharing, closeness, immediacy, tags, etc.), we propose that ads in this medium might be more favorably received by women than men.

On the other hand, prior marketing research has also found information processing differences between the genders. According to priming theory, women are “comprehensive processors,” who focus on integrating detailed information, whereas men are “selective processors,” who rely on schemas and heuristics (Meyers-Levy and Maheswaran, 1991). When processing commercial information men follow simple rules and try to use as few resources as possible. In contrast, women spread their attention across a larger number of advertising stimuli (Goodrich, 2014). In a dynamic social media platform, such Instagram Stories, where users have a large quantity of information and interactive possibilities available during a short period, women may be able to focus more comprehensively on different types of information and process the advertising more effectively than men, who might more easily process stable information (i.e. Facebook Wall).

Accordingly, $H3$ is proposed:

$H3$. The effect of social media format on ad effectiveness is moderated by gender, such that (a) ad attitude, (b) (reduced) ad intrusiveness and (c) loyalty will be enhanced in Instagram Stories for women and in Facebook Wall for men users.

3. Method

The research procedure consisted of an online survey in which each participant had to visit her/his own social media site before answering the questionnaire. We recruited 308 individuals through direct links posted on the university website and shared among students, family, colleagues, and participants in a previous research project unrelated to the present study. The research was presented in Google Forms as an academic study on social media. After a short presentation, the participants were instructed to navigate through one of the three social networks for one minute. To ensure sufficient sample size in each group, the study website was arranged to assign participants randomly to one of the three conditions: Facebook Wall, Instagram Wall and Instagram Stories. Participants had to visit the assigned social medium using their own user account and to navigate through it as normal. Thereafter, they had to return to the study website to answer a questionnaire about their recent social media experience and some specific questions about the ad appeared during that time; participants were instructed to focus on the first ad if more than one ad appeared during their navigation. After removal of five respondents who did not complete the survey or watch any ads during their navigation, the final sample consisted of 303 valid responses (Facebook Wall, $N = 103$; Instagram Wall, $N = 100$; and Instagram Stories, $N = 100$). The participants’ ages ranged from 18 to 60, 33 years being the average; of the total, 56.77 per cent were millennials (aged below 31 years), and 63.03 per cent were women. Despite some bias toward women and younger users,
the characteristics of the sample are similar to those of Spanish users of social media in terms of age and gender (IAB, 2018). A small pretest with 26 subjects, who did not thereafter participate in the main study, was performed to check the subjects’ understanding of the initial instructions, the measurement instruments, and to assess the time required to complete the exercise.

3.1 Measurement

Measurement scales for the questionnaire were obtained from different sources based on the theoretical content of each variable. Table I indicates the scale used to measure each construct and the source.

To test the validity of our scales (Table II), we also tested for construct reliability, and convergent and discriminant validity. Construct reliability was assessed by means of Cronbach’s α and the composite reliability indicator, and we confirmed that the values for each scale were higher than the recommended 0.65 threshold (Steenkamp and Geyskens, 2006). To check convergent validity, we confirmed that the factor loadings of the confirmatory model were statistically significant (at 0.01) and higher than 0.5 (Steenkamp and Geyskens, 2006). The average variance extracted (AVE) values were also greater than 0.5 (Fornell and Larcker, 1981). The items of each scale correlated positively and converged on only one construct, such that the factorial analyses showed three factors with eigenvalues higher than 1, confirming the dimensionality of our research instrument. The proportion of variance explained was 42.85, 74.75 (accumulated) and 87.88 per cent (accumulated), respectively, the last being higher than the 0.60 threshold proposed by Hair et al. (1998). Discriminant validity was also confirmed by corroborating that the correlations

<table>
<thead>
<tr>
<th>Construct</th>
<th>Measurement</th>
<th>Adapted from</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ad attitude</td>
<td>The ad was unpleasant/pleasant</td>
<td>Lau-Gesk and Meyers-Levy (2009)</td>
</tr>
<tr>
<td></td>
<td>The ad was not at all likable/likable</td>
<td></td>
</tr>
<tr>
<td>Intrusiveness</td>
<td>The ad was intrusive</td>
<td>Li et al. (2002)</td>
</tr>
<tr>
<td></td>
<td>The ad was disturbing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The ad was distracting</td>
<td></td>
</tr>
<tr>
<td>Loyalty</td>
<td>I intend to get more information about the advertised product/service</td>
<td>Chi and Qu (2008)</td>
</tr>
<tr>
<td></td>
<td>I intend to buy the advertised product/service</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I would recommend the advertised product/service</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I would disseminate information about the advertised product/service in social media</td>
<td></td>
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</tbody>
</table>

Notes: aSeven-point bipolar scale; bseven-point Likert scale

<table>
<thead>
<tr>
<th></th>
<th>Cronbach’s alpha</th>
<th>CR</th>
<th>AVE</th>
<th>Ad attitude</th>
<th>Perceived intrusiveness</th>
<th>Loyalty intentions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ad attitude</td>
<td>0.86a</td>
<td>0.97</td>
<td>0.95</td>
<td>0.97</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived intrusiveness</td>
<td>0.94</td>
<td>0.96</td>
<td>0.90</td>
<td>0.18</td>
<td>0.95</td>
<td></td>
</tr>
<tr>
<td>Loyalty intentions</td>
<td>0.87</td>
<td>0.95</td>
<td>0.83</td>
<td>0.36</td>
<td>-0.19</td>
<td>0.91</td>
</tr>
</tbody>
</table>

Notes: Diagonal elements (bold figures) are the square root of the AVE (the variance shared between the constructs and their measures). Off-diagonal elements are the correlations among variables. CR: composite reliability. a Cronbach’s α has been replaced by the Spearman correlation for ad attitude two-item scale
between constructs were lower than the square root of the AVE for each construct (Fornell and Larcker, 1981).

In addition, we tested for distribution normality and for the absence of multicollinearity problems, as depicted in Table III. The items in each variable present skewness and kurtosis values of ±2, which are considered acceptable indicators of distribution normality (Garson, 2012). Only one item (LOY4) has a 2.88 kurtosis value which is also considered normal as it falls within the acceptable range of ±10 (Kline, 2011). A simple and obvious way to detect multicollinearity is to check the correlation matrix for the variables. The bi-variate correlations between the variables were between −0.23 and 0.36, values which are lower than the correlations, above 0.70 or 0.90, usually related to multicollinearity problems. In addition, the variance inflation factor for each item was below the established limit of 10 (Hair et al., 1998). Thus, there is no evidence of multicollinearity in the measurement instrument.

4. Results
First, to test the global effects of social media format, age and gender on the three dependent variables (i.e. ad attitude, intrusiveness and loyalty), we carried out a multivariate analysis of variance (MANOVA). The results of the MANOVA indicate that at least one of the dependent variables is significantly affected in isolation by social media format (Wilks’ $\lambda = 0.91$, $F(6, 578) = 4.89$, $p < 0.01$), and gender (Wilks’s $\lambda = 0.96$, $F(3, 289) = 3.76$, $p < 0.05$), but not by age (Wilks’s $\lambda = 0.98$, $F(3, 289) = 1.63$, $p > 0.10$). Interestingly, the interaction effect between social media format and age significantly affects one or more of the dependent variables (Wilks’s $\lambda = 0.93$, $F(6, 578) = 3.64$, $p < 0.01$), but the interaction effect between social media and age is not significant (Wilks’s $\lambda = 0.97$, $F(6, 578) = 1.34$, $p > 0.10$).

To examine more closely the effects on each dependent variable we carried out an analysis of variance (ANOVA) for each them, considering all the different conditions: Facebook Wall, Instagram Wall and Instagram Stories. The results reveal that the social media in which ads are presented influence attitude toward the ads ($F(1, 302) = 6.07$, $p < 0.01$) and intrusiveness ($F(1, 302) = 14.53$, $p < 0.01$), but not loyalty ($F(1, 302) = 0.12$, $p > 0.10$). Table IV presents the descriptive statistics.

To test $H1$, which proposes that Instagram Stories has higher ad effectiveness than Facebook Wall, we carried out an Honestly Significant Difference test (HSD Tukey). In support of $H1a$, Instagram Stories’ ads elicit a more favorable attitude than Facebook Wall ($p < 0.01$, HSD Tukey test). Attitude toward the ad is also higher in Instagram Stories than in Instagram Wall ($p < 0.10$, HSD Tukey test), indicating that the influence is not due to the

<table>
<thead>
<tr>
<th>Item</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>VIF</th>
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<tbody>
<tr>
<td>ADATT1</td>
<td>1.15</td>
<td>1.14</td>
<td>5.00</td>
</tr>
<tr>
<td>ADATT2</td>
<td>1.37</td>
<td>1.83</td>
<td>5.00</td>
</tr>
<tr>
<td>INTRU1</td>
<td>0.71</td>
<td>0.48</td>
<td>4.41</td>
</tr>
<tr>
<td>INTRU2</td>
<td>0.68</td>
<td>0.71</td>
<td>5.25</td>
</tr>
<tr>
<td>INTRU3</td>
<td>0.82</td>
<td>0.38</td>
<td>4.20</td>
</tr>
<tr>
<td>LOY1</td>
<td>1.06</td>
<td>0.08</td>
<td>3.94</td>
</tr>
<tr>
<td>LOY2</td>
<td>1.40</td>
<td>0.95</td>
<td>4.46</td>
</tr>
<tr>
<td>LOY3</td>
<td>1.23</td>
<td>0.40</td>
<td>4.07</td>
</tr>
<tr>
<td>LOY4</td>
<td>1.93</td>
<td>2.88</td>
<td>2.62</td>
</tr>
</tbody>
</table>

Table III. Normality and multicollinearity tests: skewness, kurtosis and VIF indicators

Note: VIF = Variance inflation factor
social media but to the social media format. Contrary to our expectations, Instagram Stories ads do not reduce, but increase, levels of ad intrusiveness in comparison to Facebook Wall ($p < 0.01$). These results are contrary to $H1b$ and suggest the opposite effect: Instagram Stories ads are more intrusive than Facebook Wall and Instagram Wall ads ($p < 0.01$). Finally, we tested ad effectiveness in terms of loyalty, but the differences between Instagram Stories and the other two platforms are not significant ($p > 0.10$ HSD Tukey test). Thus, $H1c$ is not supported. In addition, the differences between Facebook Wall and Instagram Wall were not significant for any of the three dependent variables ($p > 0.10$ HSD Tukey test), suggesting that advertising effectiveness is similar in both platforms when using wall formats.

Second, to test $H2$, which proposes that the ad effectiveness of a social media format is moderated by age, we used analysis of variance (ANOVA). Table V presents the descriptive statistics of advertising effectiveness by social media format and age. The interaction effect between social media format and age is not significant in attitude toward the ad as the dependent variable ($F < 1$). Thus, the moderation effect on attitude proposed in $H2a$ is rejected. In support of $H2b$, the interaction effect between age and social media format on intrusiveness is significant ($F(1, 302) = 5.96; p < 0.01$). More specifically, the results show that Facebook Wall ads are more intrusive for millennial than for non-millennial users ($F(1, 102) = 11.08; p < 0.01$); in turn, Instagram Stories and Instagram Wall ads are less intrusive for millennial than for non-millennial users, although the differences are not significant (respectively $F(1, 99) = 1.45; p > 0.10$, and $F(1, 99) = 1.74; p > 0.10$). Finally, our results support the interaction effect between age and social media advertising format on loyalty ($F(1, 302) = 3.34; p < 0.05$), in support of $H2c$. As presented in Table V, non-millenials tend to be more loyal to Facebook Wall ads, whereas millennials tend to be more loyal to Instagram Stories and Instagram Wall advertising (although the difference is only significant in the Instagram Wall condition, $F(1, 99) = 14.14; p < 0.01$). Thus, the results reveal similar patterns of user responses in Instagram Wall and Instagram Stories in terms of attitude toward the ad, intrusiveness and loyalty. In this case, our findings suggest that the moderating effect of age on advertising effectiveness is more related to the social media (Instagram vs Facebook) than to format (Stories vs Wall).

A further ANOVA analysis was performed to test our $H3$, as to whether gender moderates the influence of social media format on ad effectiveness. Table VI provides the descriptive statistics. The results indicate that the moderation effect on ad attitude proposed by $H3a$ is not supported. In terms of intrusiveness, we observe that it is influenced directly by gender ($F(1, 302) = 6.15; p < 0.05$). More specifically, men perceive ads on all platforms as more intrusive than women. Nevertheless, the interaction effect between social media format and gender on ad intrusiveness is not significant, which indicates that $H3b$ is not supported. In turn, the interaction effect between social media format and gender on loyalty is significant ($F(1, 302) = 3.12; p < 0.05$), in support of $H3c$. In this sense, Facebook Wall significantly increases loyalty among men compared to women ($F(1, 102) = 4.01; p < 0.05$). Loyalty in Instagram Wall also tends to be higher for men than for women, although the difference is not significant.

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Facebook Wall</th>
<th>Instagram Wall</th>
<th>Instagram Stories</th>
<th>ANOVA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td></td>
</tr>
<tr>
<td>Ad attitude</td>
<td>2.00 (1.49)</td>
<td>2.22 (1.67)</td>
<td>2.63 (1.13)</td>
<td>6.07</td>
</tr>
<tr>
<td>Ad intrusiveness</td>
<td>2.56 (1.43)</td>
<td>2.82 (1.49)</td>
<td>3.76 (1.30)</td>
<td>14.53</td>
</tr>
<tr>
<td>Loyalty intentions</td>
<td>2.06 (1.46)</td>
<td>2.09 (1.79)</td>
<td>2.16 (1.46)</td>
<td>0.12</td>
</tr>
</tbody>
</table>

Table IV. Descriptive statistics by social media format.
<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Facebook Wall</th>
<th></th>
<th>Instagram Wall</th>
<th></th>
<th>Instagram Stories</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Millennials</strong></td>
<td><strong>Non-Millennials</strong></td>
<td><strong>Millennials</strong></td>
<td><strong>Non-Millennials</strong></td>
<td><strong>Millennials</strong></td>
<td><strong>Non-Millennials</strong></td>
</tr>
<tr>
<td></td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
</tr>
<tr>
<td>Ad attitude</td>
<td>2.15 (1.32)</td>
<td>1.91 (0.96)</td>
<td>2.19 (1.29)</td>
<td>2.29 (1.32)</td>
<td>2.51 (1.25)</td>
<td>2.87 (1.77)</td>
</tr>
<tr>
<td>Ad intrusiveness</td>
<td>3.22 (1.90)</td>
<td>2.15 (1.36)</td>
<td>2.68 (1.25)</td>
<td>3.10 (1.84)</td>
<td>3.68 (1.76)</td>
<td>3.93 (1.81)</td>
</tr>
<tr>
<td>Loyalty intentions</td>
<td>1.89 (1.28)</td>
<td>2.17 (1.59)</td>
<td>2.38 (1.55)</td>
<td>1.57 (0.95)</td>
<td>2.16 (1.39)</td>
<td>2.15 (1.58)</td>
</tr>
</tbody>
</table>

Table V. Descriptive statistics by social media format and age.
(F(1, 99) = 0.18, p > 0.10). In turn, loyalty in Instagram Stories tends to be higher among women than men, but this difference is not significant (F(1, 99) = 2.36, p > 0.10). Thus, in the case of the results of gender influence on loyalty, Instagram Wall has a similar pattern to Facebook Wall, suggesting that gender differences in advertising effectiveness are due to the format (Stories vs Wall) rather than the social media (Instagram vs Facebook).

4.1 Post hoc analysis: triple interaction effect and users’ profiles

After observing the moderation effects of age and gender in isolation, a post hoc analysis was carried out to test a possible triple interaction effect between social media format, age, and gender on ad effectiveness. In other words, the moderating effect of age may be simultaneously moderated by gender, such that the impact of each of the variables may depend on the other. To test this proposition, we conducted an ANOVA analysis of the direct effect of each dependent variable and the interaction effect of the combinations between them, including the triple interaction effect.

The analyses of attitude toward the ad and ad intrusiveness as the dependent variables show significance for the direct or interaction effects mentioned in the previous sections, but no triple interaction effects were found. The most interesting results are found with loyalty as the dependent variable. Specifically, the results confirm a significant triple interaction effect of social media format, age, and gender (F(1,302) = 3.62, p < 0.05).

Figures 1-3 help to disentangle this unexpected interaction effect. In concrete terms, the results indicate that millennials of both genders have similar loyalty intentions in each of the social platforms. In the case of Instagram Wall, millennial users are significantly more loyal to advertising on that social media format than non-millennial users (F(1, 99) = 7.30, p < 0.01). In Instagram Stories and Facebook Wall, non-millennial users differ in their loyalty intentions depending on gender and social media platform. Non-millennial men present significantly higher levels of loyalty than non-millennial women when shown ads in Facebook Wall (F(1, 62) = 5.90, p < 0.05). In turn, non-millennial men present significantly lower levels of loyalty than non-millennial women when shown ads in Instagram Stories (F(1, 33) = 6.24, p < 0.05).

In sum, the results of the post hoc analyses reveal that Instagram Wall increases loyalty among both millennial men and millennial women (but not among non-millennials); Instagram Stories might increase loyalty among millennial users of both sexes and non-millennial women, whereas Facebook Wall might be particularly effective to increase loyalty intentions among non-millennial men.

To drill down into these findings, we examined non-millennial differential profiles in social media platforms, depending on gender. To do so, we analyzed two items included at the end of the questionnaire regarding intensity of social media use and the following of influencers’ profiles. Specifically, we presented an eight-point scale of frequency of use (number of times that the individual uses the social media platform, from 1 = Less than once to 8 = More than once a week)

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Facebook Wall</th>
<th>Instagram Wall</th>
<th>Instagram Stories</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Women Mean (SD)</td>
<td>Men Mean (SD)</td>
<td>Women Mean (SD)</td>
</tr>
<tr>
<td>Ad attitude</td>
<td>2.05 (1.18)</td>
<td>1.94 (1.03)</td>
<td>2.25 (1.23)</td>
</tr>
<tr>
<td>Ad intrusiveness</td>
<td>2.47 (1.48)</td>
<td>2.71 (1.90)</td>
<td>2.54 (1.40)</td>
</tr>
<tr>
<td>Loyalty intentions</td>
<td>1.82 (1.24)</td>
<td>2.41 (1.72)</td>
<td>2.05 (1.37)</td>
</tr>
</tbody>
</table>

Table VI. Descriptive statistics by social media format and gender
per month, to 8 = More than 20 times per day), adapted from Belanche et al. (2017b), and a question as to whether the respondent was following an influencer and who that was.

When comparing non-millennial women (women over 30 years old) to the rest of the sample, the results indicate that they do not differ in their frequency of use and influencer-following...
behavior. However, the results do indicate that social media use by non-millennial men (men over 30) differs from the rest of the sample. Specifically, non-millennial men tend to use social media less frequently than the other groups of users ($M_{Non-Millenials\text{Men}} = 4.94, M_{Others} = 6.12, t(301) = 4.31, p < 0.01$). In addition, the percentage of non-millennial men following at least one influencer is significantly lower (21.7 per cent) than the percentage of users in the other groups who follow one or more influencers (42.1 per cent) ($X^2 = 6.76, p < 0.01$).

Table VII summarizes the results of the hypotheses testing and the main research findings for practical purposes.

### Table VII

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Formulation</th>
<th>Result</th>
<th>Practical findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>$H1a$</td>
<td>Ad attitude</td>
<td>Supported</td>
<td>Attitude toward ads is higher in Instagram Stories than in Facebook Wall and Instagram Wall</td>
</tr>
<tr>
<td>$H1b$</td>
<td>Ad intrusiveness</td>
<td>Not supported (opposite effect)</td>
<td>Intrusiveness perception toward ads is higher in Instagram Stories than in Facebook Wall and Instagram Wall</td>
</tr>
<tr>
<td>$H1c$</td>
<td>Ad loyalty intentions</td>
<td>Not supported</td>
<td>Please see $H2c$, $H3c$ and post hoc c</td>
</tr>
<tr>
<td>$H2a$</td>
<td>$H1a$ is higher for millennials than for non-millennials</td>
<td>Not supported</td>
<td>Please see $H1a$</td>
</tr>
<tr>
<td>$H2b$</td>
<td>$H1b$ is higher for millennials than for non-millennials</td>
<td>Supported</td>
<td>Ad intrusiveness in different social media depends on age. In particular, millennials perceive ads on Facebook Wall as more intrusive</td>
</tr>
<tr>
<td>$H2c$</td>
<td>$H1c$ is higher for millennials than for non-millennials</td>
<td>Supported</td>
<td>Loyalty toward ads in different social media depends on age. In particular, millennials are more loyal to ads in Instagram Wall</td>
</tr>
<tr>
<td>$H3a$</td>
<td>$H1a$ is higher for women than for men</td>
<td>Not supported</td>
<td>Please see $H1a$</td>
</tr>
<tr>
<td>$H3b$</td>
<td>$H1b$ is higher for women than for men</td>
<td>Not supported</td>
<td>Please see $H1b$ and $H2b$</td>
</tr>
<tr>
<td>$H3c$</td>
<td>$H1c$ is higher for women than for men</td>
<td>Supported</td>
<td>Loyalty toward the ad in different social media depends on gender. In particular, men are more loyal to ads in Facebook Wall</td>
</tr>
<tr>
<td>Post hoc a</td>
<td>$H1a$ is simultaneously affected by age and gender</td>
<td>Not supported</td>
<td>Please see $H1a$</td>
</tr>
<tr>
<td>Post hoc b</td>
<td>$H1b$ is simultaneously affected by age and gender</td>
<td>Not supported</td>
<td>Please see $H1b$ and $H2b$</td>
</tr>
<tr>
<td>Post hoc c</td>
<td>$H1c$ is simultaneously affected by age and gender</td>
<td>Supported</td>
<td>Loyalty toward ads is influenced by the interaction between social media format, age, and gender. Facebook Wall increases loyalty among non-millennial men. Instagram Wall increases loyalty among millennials of both genders. Instagram Stories increases loyalty among millennials of both genders and non-millennial women</td>
</tr>
</tbody>
</table>

### 5. Discussion

Online advertising is today the most important advertising channel and it is expected to continue growing and evolving during the next years. Of the new online advertising possibilities, the advertising industry is paying special attention to social media platforms...
because of their growth and impact on users’ lives. Social media platforms, which have different features, offer various opportunities to advertisers to attract the consumer’s attention and to persuade them as part of the competitive process. As a consequence, advertisers and researchers need to learn more about the potential of each social media platform. In this context, our study contributes to the understanding of how the specific characteristics of social media affect advertising effectiveness in terms of attitude toward an ad, intrusiveness and loyalty.

To help advertisers choose among these media, this research focuses on the two leading social media platforms – Facebook and Instagram. Facebook, considered an information-oriented medium (Sheldon and Bryant, 2016), has the largest number of users. In the consolidated format of Facebook Wall, advertisers present their ads usually in a static and structured form. In contrast, Instagram, which has the highest growth rate of all social media platforms, is more self-promotion oriented (Sheldon and Bryant, 2016), and its particularly dynamic and popular Instagram Stories feature is increasing its value for personal and commercial brands. Instagram Stories offers to advertisers a new way to communicate with users through a full screen, ephemeral, dynamic and interactive display with high entertainment value, which will probably soon be extended to most other social media platforms (Taylor, 2018).

This research concludes that advertising effectiveness varies depending on the social media format, and that the differences between the platforms are better understood through analysis of the differential perceptions and reactions toward the ads based on these features. Specifically, our results confirm that the more dynamic social-media formats (i.e. Instagram Stories) enhance users’ attitudes toward an ad more than the more static formats (i.e. Facebook Wall and Instagram Wall). This result is consistent with previous studies which associate creative strategies with customer engagement, specifically dynamic visual messaging (Ashley and Tuten, 2015). In addition, this outcome is in line with our assumption about the self-promotional nature of Instagram Stories, which encourages users to be favorably predisposed to receive promotional content, whether from a person or a brand. Furthermore, this research considers that the social and interactive entertainment characteristics of Instagram Stories, such as augmented reality stickers, might lead users to have more favorable attitudes toward its ads than to those appearing in Facebook. In this line, the Stories format represents an advance on already innovative interactive advertising formats, such as skippable video ads (e.g. pre-roll in-stream YouTube ads). The way of viewing Stories may be similar to YouTube, where the video ads appear within the navigation experience as additional dynamic content, having the same format as the rest of the content, but can be skipped by the user after (s)he has spent some initial time processing the information (Belanche et al., 2017b). Indeed, skippable video ads have been proved to be more effective because of their interactive and user-centered features, than non-skippable video ads (Belanche et al., 2017a; Pashkevich et al., 2012). These features might be more easily linked to stories ads than to wall ads.

However, and contrary to our initial expectations, ads presented on the more dynamic Instagram Stories are perceived as more intrusive than those more static ads presented in Facebook Wall. Our results accord with Pikas and Sorrentino (2014), which affirm that the majority of respondents are annoyed by advertising on their favorite social media. This interesting result is not totally surprising, as some aspects of Instagram Stories may generate a negative advertising experience. On the one hand, the whole system of Instagram Stories ads is based on the frequent and fast display of ephemeral contents that users tend to check at any time and which could increase stress among users navigating through the platform. Furthermore, Instagram Stories does not pre-announce that commercial content
will be broadcast during the ordered series of stories; ads suddenly appear to interrupt the navigation experience. In addition, Stories tends to incorporate flashing or animated tags and calls to action embedded in the full screen. Thus, this format includes aspects, such as ad size, traditionally associated with feelings of intrusiveness (Li, et al., 2002). In contrast, Facebook Wall ads are shown only in a part of the screen, which allows users to continue to watch other content, which could decrease intrusiveness perceptions. In any case, although intrusiveness is related to negative advertising experience, previous literature on advertising admits that a certain level of intrusiveness (e.g. a big size ad) might be commercially beneficial, because this often leads to increased attention, information processing and memorization (Chatterjee, 2008).

Our research found that type of social media platform does not have a direct impact on loyalty. However, the interaction between social media platform and key personal variables (i.e. age and gender) makes a difference to the level of loyalty felt toward the advertised items. Thus, we conclude that basic characteristics of the user play a moderating role in determining social media effectiveness in terms of loyalty intentions toward advertised products and services.

With regard to the moderating effect of age, an interaction effect between age and social media platform was detected for both intrusiveness and loyalty. More precisely, our results confirm that Facebook Wall ads are less intrusive for non-millennial than for millennial users. Following Lang’s (2000) limited capacity model, millennials may have acquired the ability to handle the most innovative aspects of social media platforms, such as the interactive, vivid, and short pieces of information on Instagram Stories (Teo, 2016). As to loyalty, our results support that millennials are more loyal to Instagram Stories ads than non-millennials, who tend to be more loyal to Facebook Wall ads. The narcissistic and entertainment focused preferences of millennials when using social media platforms (Sheldon and Bryant, 2016; Taylor, 2018) accustoms millennial consumers to interact and to process commercial inputs naturally, resulting in more positive purchase intentions. Thus, due to the dynamic and the self-promotional character of Instagram Stories, millennials might perceive Instagram Stories ads as less intrusive and, consequently, they will develop greater loyalty intentions toward them than to ads presented in Facebook Wall.

Our research also helps understand the role of gender in advertising effectiveness in social media. The results show that, in general, men perceive ads as more intrusive than women. Following the priming theory, this effect could be explained by women’s ability to integrate detailed information and spread their attention across a larger number of advertising stimuli than men (Goodrich, 2014). In other words, because men are more task oriented (Meyers-Levy and Maheswaran, 1991), it seems that any interruption, such as those in Instagram Stories, leads them to perceive higher levels of intrusiveness. In contrast, the comprehensive capacity of women (Meyers-Levy and Maheswaran, 1991) allows them to process information without losing sight of the ultimate goal, which makes the ads seem less intrusive.

On the other hand, women generate higher loyalty to advertised items presented on Instagram Stories than to those advertised on Facebook Wall. These findings are in line with gender role expectation theory which argues that women are more social than men (Gefen and Straub, 1997; Sheldon and Bryant, 2016; Zhou et al., 2014). While men tend to be more task oriented, women spend more time sharing and collecting information in social media platforms (Acar, 2008; Sheldon, 2008); consequently, the results support that commercial information presented in a highly interactive social medium, such as Instagram, is more positively perceived by women. Similarly, the social and information processing character of women’s navigation might make them generate greater loyal intentions (i.e.
purchase, recommendations) than men to the advertised items in Instagram Stories; men are more loyal to items advertised in more static platforms, such as Facebook Wall.

In addition, our post hoc analyses found that non-millennial men are more loyal toward Facebook Wall ads than non-millennial women and millennials of both genders. In contrast, Instagram Stories has reduced loyalty intentions for non-millennial men. Millennials grew up during the “boom” of the globalized firms and are more impressed by creative interactive ads which have high levels of visual impact (Taylor, 2018). Moreover, our results reveal that, contrary to the stereotyped idea about the low brand loyalty of millennials, they like brands they view as part of their own identity (Taylor, 2018). In the case of women, loyalty intention in Instagram Stories is even higher for non-millennial women than for millennials. The more social character of women (Sheldon and Bryant, 2016), together with the importance that non-millennial women might give to informational social value (Fang et al., 2016), may lead them to perceive Instagram Stories as a useful informational tool that might keep them abreast of the latest trends and help them communicate with peers (Acar, 2008; Sheldon, 2008). Our results also show that non-millennial men have less intense use of social media and follow less influencers than the other groups. In this sense, the results suggest than non-millennial men tend to be less social in the digital context than women or millennials of both sexes. These findings suggest that a generational change effect seems to be at play; in relation to social media use, newer generations seem to be more socially oriented, with more general female behaviors (Sheldon and Bryant, 2016).

The inclusion of the Instagram Wall control group helps to identify whether advertising effectiveness differences between Instagram Stories and Facebook Wall are due to the kind of social media or to the kind of format (Stories vs Wall). In most cases, Instagram Wall provides similar values to Facebook Wall, suggesting that format is more important than social media. However, in terms of age, it seems that millennial users tend to be more loyal to Instagram than to Facebook, independent of the kind of Instagram ad format. In any case, the results suggest that Instagram Wall falls between the other two, but that it should not simply be assimilated into either of the other two social media or formats (e.g. post hoc results).

Looking at the advertising field in general, the findings of this research are particularly relevant because all advertising formats are evolving into shorter and more interactive supports (Belanche et al., 2017a). Users demand to be able to evaluate the information provided and judge whether they want to continue watching the ad. Moreover, the appearance of brand profiles contributes to obscure the differences between profile promotion and advertising. Users, and specifically millennials, interact with brands similarly to how they interact with other persons, via “like” or “share” buttons and comments, which loses the idea of receiving a commercial message (Taken Smith, 2012). Therefore, understanding how different groups of consumers face these innovations is crucial for improving advertising effectiveness and users’ overall experience in social media.

5.1 Managerial implications
Since the first online ad appeared, until today, online advertising has moved forward to new and more interactive formats which take individuals’ preferences into consideration. A wide number of advertising options other than social media platforms exist, and advertising professionals face the challenge of appropriately investing their limited budgets to reach the highest levels of marketing efficiency (Hofacker and Belanche, 2016). In this context, this research can help advertisers, firms and community managers achieve business success in the two most important social media platforms, Instagram and Facebook.
First, our results show that Instagram Stories builds better attitudes toward ads than Facebook Wall. Professionals should note that users exposed to ads on Instagram Stories tend to generate a positive predisposition toward the ads and, consequently, to the products and services offered. The ephemeral, dynamic and interactive Instagram Stories could be very effective in flash sales and for other short-term objectives. This finding is in line with previous research on social media influence on impulse buying, which confirms that Instagram leads to higher consumer impulsive behaviors than Facebook, Pinterest and Twitter (Aragoncillo and Orús, 2018). Nevertheless, Instagram Stories ads are perceived as more intrusive than Wall formats. This negative experience may damage the strategic objectives of a campaign; this finding suggests that using Wall formats might be a better option to build long-term goals, such as brand equity (Dehghani and Tumer, 2015). Therefore, professionals should choose between social media platforms based on the principal goals of the advertising campaign. In addition, the selection of the social media platform should be based on the target audience, as we explain next.

Our research concludes that age is an important demographic factor for determining the perceived intrusiveness of advertising in both social media platforms. The results reveal that millennials perceive lower intrusiveness in an ad embedded in Instagram Stories than in Facebook Wall, whereas non-millennials perceive the opposite. In addition, millennials are more loyal to products and services advertised on Instagram Stories than on Facebook Wall. Thus, advertising professionals should focus on Instagram Stories when targeting millennial users, whereas they should focus on Facebook Wall when targeting non-millennial users (especially men). As previously noted, a correct matching of campaign objectives, targets, and social media platform is crucial for advertising success (Bleier and Eisenbeiss, 2015). Administering exposure to the ads will not be complex, as both social media are owned by Facebook, and thus advertisers can use the same Facebook-developed bidding system to manage both their Instagram and Facebook campaigns. Like other bidding systems, such as Google AdWords, Facebook Ads is a visual tool which allows advertisers to segment the target, program the budgets allocated to each campaign, and schedule the advertising broadcasting. Advertisers should be trained on the use of this system as part of their professional skills; hitherto, they have usually focused on Google AdWords.

Our research also highlights that gender is a key factor in determining advertising effectiveness in social media platforms. Overall, women perceive advertising as less intrusive than men and are also more loyal to products or services advertised in Instagram Stories. Thus, Instagram Stories seems to be an excellent choice when targeting women. In any case, professionals should closely examine these gender differences to better focus the advertising stimuli to the correct target market. Women attach importance to information provided by peers, which is crucial to spread the commercial message virally. Advertisers should exploit all the new opportunities offered by social media platforms to segment their advertising targets with detail and precision.

Finally, this research focuses on advertising effectiveness, but to improve advertisers’ efficiency, an economic perspective in terms of the cost of advertising in each media should be included. Efficiency relates not only to output (e.g. attitude, loyalty) but also to the input (i.e. usually the costs) invested to achieve that output; in other words, to reach the highest levels of effectiveness while incurring the lowest costs to achieve that goal. A common economic indicator in social media is CPM (cost per thousand impressions), the lower the better. Recent studies show that the cost of advertising is much higher in Facebook than in Instagram; more precisely, CPM can be double for Facebook than for Instagram (Smith, 2018). Thus, given that Instagram Stories ads are cheaper than Facebook ads, advertisers
should use Instagram Stories in those cases where campaigns on that medium are already more effective. In turn, in the cases where Facebook ads are more effective, advertisers should calculate whether the increase of effectiveness is worth paying the increased price of Facebook advertising. Furthermore, these analyses should be frequently updated, as the bidding system can be affected by special sales occasions, such as Christmas, “Black Friday”, etc. Our research suggests that using Instagram Stories as an advertising platform seems to be an opportune effective strategy (especially when focusing on women and millennial men). Building an Instagram company profile might be an effective way to spread commercial messages without incurring additional advertising costs.

6. Limitations and further research

Despite the novel contribution of this study, it has several limitations that open new avenues for future research. First, our research design does not control for the specific ads broadcast in each social media platform. Although testing effectiveness during real users’ navigation in their social media profiles increases the external validity of the research, the results could be affected by additional factors, such as the product; further research should replicate the study in lab settings (Belanche et al., 2017a) and with a probabilistic sample design. Second, we study Facebook and Instagram, currently the two leading social media platforms. The inclusion of other social media could help corroborate our hypotheses in different contexts. Indeed, further measures should be incorporated to better assess the persuasiveness of the advertising messages in each platform. Third, more detailed research into users’ profile characteristics might help professionals to examine not only the demographic factors presented in this study but also other personal or situational factors, such as lifestyles. Fourth, it would be also interesting to compare the effectiveness of “Paid ads” versus “Non-paid ads” (e.g. stories presented to followers of the brand’s profile) in Instagram Stories. Finally, a longitudinal study examining the evolution of advertising effectiveness in both social media platforms, Instagram and Facebook, might help academics and researchers better understand how changes in social media influence advertising over time.

Note
1. Facebook Stories was not included as a control group because when this study was carried out (May 2018), it had only been recently launched and did not include advertising.

References


**Further reading**


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Facebook’s power: factors influencing followers’ visit intentions

El poder de Facebook: factores que influyen las intenciones de visita de los seguidores

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Abstract

Purpose – The purpose of this paper is to examine the role that Facebook Fan Pages (FFPs) play in the generation of visit intention. The study has three objectives: first, to examine the effects of museum-generated content (MGC) on perceived information quality and perceived customer service and perceived information quality and perceived customer service on visit intention and, second, to test the model with two samples to make comparisons that provide useful insights.

Design/methodology/approach – Data were collected through an online survey that achieved 308 valid responses. A multi-group analysis was conducted to compare the results from two groups: users of the Frida Kahlo museum and Anahuacalli museum FFPs.

Findings – The results reveal that there are significant differences between the two samples regarding the direct effects of perceived information quality on visit intention and perceived customer service on visit intention. The authors also noted a slight difference between the two museums’ FFPs in the relationship between MGC and perceived information quality.

Research limitations/implications – Further research is needed to examine other FFP factors that influence visit intention to clarify the results obtained from the two samples and to analyse the proposed
model in other settings. This research contributes to the literature concerning the impact of online platforms on visit intention.

**Originality/value** – The findings provide useful insights for managers as to how to increase their FFP followers’ intention to visit their establishments.

**Keywords** Facebook, Visit intention, Museum generated content, Perceived customer service, Perceived information quality

**Paper type** Research paper

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**1. Introduction**

User-generated content (UGC) and marketer-generated content are growing rapidly and is having a significant impact on electronic commerce (Choi and Lee, 2016); this content can influence users’ perceptions of tourism products (Cox et al., 2009; Lim et al., 2012). In the case of museums, some professionals have anticipated that adopting digital innovations might help them strengthen their relationships with visitors and increase visitor numbers, whereas others have feared that this development would inevitably mean the loss of physical visits (Evrard and Krebs, 2017). The tourism industry is one of the most affected by digital innovations, as potential visitors increasingly use the internet as an information source and, consequently, are becoming more information-literate, and their needs and expectations are becoming more sophisticated (Cristobal-Pransi et al., 2017; Marty, 2008). Therefore, marketer-generated content (i.e. museum-generated content – MGC) has become an indispensable marketing tool through which to interact with potential tourists, and hence, with possible museum visitors.

Tourism companies consider social network sites, because of the advertising value of marketer-generated content, as essential elements in marketing decision-making (Hofacker and Belanche, 2016; Martinez-Navarro and Bigné, 2017). These sites facilitate direct connections with potential consumers, establish awareness, build relationships with the
target market and raise consumers’ knowledge (Kang et al., 2014; Misopoulos et al., 2014; Pagani et al., 2013). Thus, social network advertising, whether implicit or explicit, has become a compulsory marketing activity (Kwon et al., 2014), as social network sites have transformed consumer behaviour (Mutanga et al., 2011).

Facebook is considered to be a channel for addressing customer service issues and a tool for viral marketing, as it stimulates word of mouth (WOM) among followers (Hausmann, 2012; Jin, 2017; Padilla-Melendez and Del Aguila-Obra, 2013). Facebook is the third top website in terms of traffic (Helmond, 2018). Facebook Fan Pages (FFPs) are considered to be key free forms of social network advertising because of their wide reach (Martínez-Navarro and Bigne’, 2017; Taylor et al., 2011), which is a consequence of the comprehensive information available on those platforms; these data assist users to make objective judgments regarding an organization and its products and services (Flavian and Guinaliu, 2006; Kang et al., 2014). They are very valuable edutainment tools for achieving a museum’s objectives (Camarero et al., 2018; Lazzeretti et al., 2015).

Some prior studies have found that social network sites boost behavioural intentions (Casalo et al., 2017a; 2018; Chung and Buhalis, 2008; Cristobal-Fransi et al., 2017). Most of the tourism research conducted into this topic looks at the influence of UGC on visiting intention, focusing on blogs (Chen et al., 2014; Hsiao et al., 2013), electronic word of mouth (eWOM) (Jalilvand and Samiei, 2012; Wang 2015a, 2015b), virtual communities (Duhan and Singh, 2014) and travel experience sharing on social network sites (Liu et al., 2018). In addition, we have found no tourism-related research focusing on the impact of marketer-generated content on visiting intention. In addition, we have found study dealing neither with the relationship between perceived information quality and visit intention nor with the linkage between perceived customer service and visit intention. Thus, there is a lack of understanding as to how to take advantage of the business opportunities offered by social network sites (Chung et al., 2017; Öz, 2015), particularly in the museum context (Padilla-Melendez and Del Aguila-Obra, 2013).

As noted by Camarero et al. (2018), there is a need for museum-related studies that focus on the effectiveness of social network sites. Furthermore, debate has continued for over 20 years, in the context of digital innovations, on whether these platforms increase or decrease visitor numbers to physical museums (Cunliffe et al., 2001; López et al., 2010). Museum-related research has analysed the effect of their websites on visitor intention to visit the museum (Marty, 2007, 2008; Padilla-Melendez and Del Aguila-Obra, 2013; Pallud and Straub, 2014), but the effect of social network sites on visit intention remains little studied.

This research aims to examine the direct effects of MGC on perceived information quality and perceived customer service and perceived information quality on visit intention and perceived customer service on visit intention. The study settings are the Frida Kahlo and Diego Rivera Anahuacalli (also known as Anahuacalli) museum FFPs. No recent research has been found that analyses the aforementioned relationships in a FFP context, examines the impact of marketer-generated content on visit intention and, moreover, that uses partial least squares multi-group analysis (MGA). There are no comparative studies into the influence of marketer-generated content on visit intention regarding two museum FFPs.

This paper compares, by using a partial least squares MGA, the Frida Kahlo museum and Diego Rivera Anahuacalli museum FFPs. To the best of our knowledge, this is one the first tourism studies to compare visit intention to two museums known for their relationships to two iconic artists; this is, thus, a unique theoretical contribution of this paper. Moreover, not only are these museums representative of iconic Mexican artists, the two museums share the same management team and are based in Mexico City, but not in the same specific locations. Despite these similarities, the museums’ Facebook strategies are
different. The Frida Kahlo museum FFP focuses on creating an online community, whereas the Diego Rivera Anahuacalli museum FFP seeks to provide information to attract visitors. Hence, this research investigates the effects of MGC regarding these two museum FFPs. This is significant because research into museumgoers’ behavioural outcomes is limited, and there is a need for empirically verified conclusions.

2. Theoretical background and hypotheses

2.1 The influence of museum-generated content on perceived information quality

The development of information and communication technologies and the internet has dramatically revolutionized the way in which visitors plan, buy and consume tourism products and services (Buhalis and Law, 2008; Yoo and Gretzel, 2017). In such scenarios, information quality, as it can satisfy consumer expectations, is considered a crucial determinant of purchasing decision-making in the digital sphere (Kim et al., 2017). It is also considered a key element in the generation of a positive organizational image and for building long-term customer relationships (Jeong and Lambert, 2001). In the social media context, followers look not only for specific information but also for amusement (Chen et al., 2014; Kim et al., 2017). The users of social network sites assess perceived information quality in terms of the relevance of the information, comments regarding the product or service offer, the uniqueness of the information and its up-to-date quality (Kim and Johnson, 2016).

Very frequently, research on information quality considers information usefulness as one of its intrinsic dimensions (Delone and McLean, 1992). Usefulness is frequently considered part of contextual information quality, that is, the requirement that information quality must be considered within the context of the task at hand (Lee et al., 2002). When applied to a digital environment, information usefulness also is considered a key component of information quality (Rieh, 2002) altogether with usability, adequacy, accessibility and interaction (Yang et al., 2005). Accordingly, if MGC focuses on providing information about museum values, benefits, positive atmosphere, positive emotions and feelings, as it is usually measured (Kim and Johnson, 2016), this kind of content focused on providing useful insights on the museum should increase perceived information quality. Kim and Johnson (2016) postulate the significant influence of UGC on the perceived information quality in the framework of the stimulus (S) – organism (O) – Response (R) under the rationale that brand-related UGC, shared via Facebook, contains informational messages that have a positive influence on consumers’ emotions (e.g. pleasure) but also on cognitions such as perceived information quality as other authors have also found in the website design framework (Eroglu et al., 2003; Ha and Im, 2012). Consequently, the following hypothesis is proposed:

\[ H1. \text{ The greater is the MGC on Facebook, the better is perceived information quality.} \]

2.2 The influence of museum-generated content on perceived customer service

It has been proved that potential consumers increasingly use information from social network sites to make tourism decisions (Ayeh et al., 2013; Cox et al., 2009; Plank, 2016). Postings significantly influence consumers’ expectations, as these can have an effect at each stage of the customer journey and are considered reliable (Mauri and Minazzi, 2013; Xiang et al., 2015). Almost all organizations use social network sites as customer service tools to address consumers’ needs and desires; this is changing the customer service landscape by adding pressure to improve service quality (He et al., 2013).

Customer service is understood to be all the organization’s activities to increase the value received by customers, which can be tangible or intangible and can directly or indirectly
address their expectations that will finally have an impact on their satisfaction and behavioural intention (Kursunluoglu, 2014). Postings should be complemented with accurate information that answers customer needs and inquiries (Ye et al., 2011). Studies concerning blogs highlight that the content of these platforms can trigger customer purchase intention (Chen et al., 2014; Escalas, 2004; Hsiao et al., 2013; Woodside et al., 2008). Accordingly, as this content has an impact on purchase intention, it is critical to discover the effect of MGC on customer service. In this respect, it has been found that direct communications are frequently representative of good customer service (Goh et al., 2013). Wolfinbarger and Gilly (2003) defined customer service in the electronic context as the willingness and readiness to respond to customer needs, the sincere interest of the site to solve customers' problems and the prompt answer to inquiries. Daugherty et al. (2008) postulate that the most important motivations for generating UGC are utilitarian (gaining rewards and avoid punishment), knowledge (need to gain information), value-expression (express or relate their self-concept and values) and ego-defence (protect people from internal insecurities or external threats). The easiest way of fulfilling the ego-defence function is providing others with accurate information regarding how well the museum was able to provide a good service quality. Accordingly, we expect that the UGC based on relevant information about museum’s objectives, values and benefits as defined by Kim and Johnson (2016) should be correlated with the perception of good service quality, as it helps users as an indicator that the same museum which publish this useful UGC will probably be a museum committed to service quality. Thus, it is proposed:

\[ H2. \] The greater is MGC on Facebook, the better is the perceived customer service.

2.3 The influence of perceived information quality on visit intention
Information quality is also seen as a motivating factor, as it facilitates the differentiation between organizations in terms of the accuracy, consistency, timeliness and completeness needed to influence customers' purchasing decisions (Heinrichs et al., 2011; McKnight et al., 2017; Pearson et al., 2012). Furthermore, it is argued that social network sites work like huge WOM mechanisms that catalyse and accelerate information distribution (Dellarocas, 2003; He et al., 2013). Owing to the complexity of social network sites, it is noted that it is important to help followers easily to understand and learn how to use them to ensure their willingness to continue to use the platforms as information sources; this can increase consumers’ intentions to share postings with their friends (Heinrichs et al., 2011).

In an online context, it is a very complicated for museum professionals to influence users’ behavioural intentions, such as their visit intention. Nonetheless, museum professionals hope that their online resources will encourage positive behavioural outcomes, mainly, of course, willingness to visit the physical museum (Lazarinis, 2011; Lepkowska-White and Imboden, 2013; Lin and Cassidy, 2008; Marty, 2007, 2008; 2011; Pallud and Straub, 2014). Although these scholars discuss the effect of museum online resources on consumers’ intentions to visit the actual museums, we have found no studies that measure the relationship between the perceived information quality of FFP postings and visit intention in the museum sector.

Nevertheless, it has been found that website information quality influences users’ behavioural intentions (such as intention to use, recommend and select over other websites) (Chiu et al., 2005; Kim and Niehm, 2009). In this sense, quality has become more critical, as it has been proved that the quality of online reviews has a positive impact on consumers’ behavioural intentions (Lee and Shin, 2014; Park et al., 2007). Specifically, some scholars have shown that eWOM has a significant impact on tourists’ attitudes towards visiting destinations (Doosti et al., 2016; Jalilvand and Samiei, 2012; Jalilvand et al., 2012; Jalilvand et al., 2013).
Another approach to the rationale of why information quality should positively influence visit intentions is provided by Kim and Park (2013) who consider that online buyers depend on the information provided by websites, as they have limited sources of information about products or services. Accordingly, consumers will tend to trust those websites that provide accurate and timely information.

Hence, it is reasonable to assume that a follower’s intention to visit a physical museum will be influenced by the perceived information quality of the FFP postings. Therefore, it is hypothesized:

\[ H3. \] The perceived information quality of FFP postings has a positive and significant influence on visit intention.

2.4 The influence of perceived customer service on visit intention

Customers use social network sites to interact with friends, view and share videos and photos and to search for organizations and brands. Social media allow followers, and even other users, to monitor and track how organizations operate (including complaint handling; Gallaugher and Ransbotham, 2010). Despite this, it is been considered by organizations as a new channel to strengthen customer relationships (Rapp et al., 2013). As a result, it is crucial for organizations actively to use these social networking sites as customer service tools (He et al., 2013; Kietzman et al., 2011).

Prior research concludes that online customer service has a positive impact on consumer satisfaction (Wolfinbarger and Gilly, 2003) and, consequently, on their behavioural intentions (Zeng et al., 2009). In this regard, it has been argued that customer service is a critical factor in an organization’s management, as a service failure will influence the customer’s service evaluation (Hsu et al., 2017; Wan et al., 2011). The modern consumer views online comments as a guide when purchasing products online (Jiménez and Mendoza, 2013).

At the very end, one of the main reasons to re-visit a museum or re-purchase any product or service is past experience (Kuo et al., 2009). However, when this previous experience has not taken place, potential visitors have to refer to a reliable indicator that can help consumers to anticipate how can they be treated during the visit. If the information in the posting contains answers to visitor needs, shows that inquiries are answered promptly or that the museum shows interest to solve visitor’s problems, these customer service activities should boost intention to visit the museum, as they can be the best proxy of past experiences and take its role to increase visit probability.

Thus, followers that perceive FFPs’ customer service positively will be likely to want to visit the physical museum. It is, therefore, postulated:

\[ H4. \] Perceived customer service activities in FFPs’ postings have a positive and significant influence on visit intention.

3. Methodology

3.1 Measurement model

All items were adapted from published studies and were measured on seven-point Likert scales. The items in Kim and Johnson (2016) study into brand-related UGC content served as the foundations for the MGC scale. The original scale used three items to assess informational brand-related UGC and three to examine emotional brand-related content. The items were slightly adapted to the museum context by substituting the terms “featured brand and product” and “functions of the featured brand and product” with “museum,”
“visiting the museum” and “museum’s objectives”. Perceived information quality was measured through the cumulative word count methodology of Hsu et al. (2012) and Kim and Johnson (2016). The scale developed by Wolfinbarger and Gilly (2003) was used to measure perceived customer service. Visit intention were captured using the scales of Kim and Johnson (2016) and Pallud and Straub (2014).

3.2 Data collection procedure and sample profile

The model at Figure 1 was tested using the Frida Kahlo and Diego Rivera Anahuacalli museums FFPs. The Frida Kahlo museum FFP has more than 1 million followers and the Diego Rivera Anahuacalli museum FFP some 190,000 followers. The followers of both FFPs were invited to participate in this study. These FFPs were chosen for the study because both museums are very popular Mexico City attractions and are managed by the same staff team. The Frida Kahlo museum, in particular, can be considered a “superstar” museum, because it is a Mexican cultural icon and a reference for overcoming discrimination and gender inequality, whereas Anahuacalli is a popular museum for locals, as Diego de Rivera is not so well known internationally.

From May 2016 to February 2017, followers of both of the museums’ FFPs were invited to fill in an online survey in Spanish, as both museum FFPs are in this language. Participants were recruited through a non-probabilistic, convenience sampling method (Malhotra and Birks, 2007). Both online questionnaires, one for each museum FFP, were developed using the Google forms tool. Links to the online surveys were published on public posts on both of the museums’ FFPs. Both surveys included an introductory section explaining the project and, to ensure the quality of the study, participants were assured that:

- their answers would be anonymous;
- the data would be used only for research purposes; and
- there were no right or wrong answers; so honest responses were expected (Podsakoff et al., 2003).

A total of 325 questionnaires were received, 172 from the Frida Kahlo and 153 from the Anahuacalli. However, the total number of usable questionnaires received was 308, 163 from the Frida Kahlo and 145 from the Anahuacalli. The 94 per cent response rate for both samples indicates that bias is not a concern (Fowler, 1984; Yuksel et al., 2010). G*Power 3 was used to perform the power analysis (Faul et al., 2007). Both sample sizes guaranteed power for the $R^2$ deviation from zero test because the results in both cases were above 95 per cent for the proposed model (Figure 1) (Cohen, 1988). The statistical power of 163 and 145 for the two groups is acceptable sample sizes. Table I presents details of the socio-demographic profiles of both samples.

Table II details the measurement model and the descriptive analysis. In brief, the mean values indicate that the Frida Kahlo Museum and Anahuacalli Museum FFP followers value

![Figure 1. Theoretical model and hypotheses](image-url)
similarly all the dimensions of the proposed model. Perceived customer service seems to be the least valued factor in the Anahuacalli Museum FFP followers’ sample.

4. Results

4.1 Model assessment using partial least squares structural equation modelling

SmartPLS (version 3.2.7; Ringle et al., 2015) was used to perform the partial least squares structural equation modelling (PLS-SEM) and MGA analyses, as this nonparametric method is highly appropriate for MGAs (Hair et al., 2014; Henseler et al., 2016; Sarstedt et al., 2011). Moreover, PLS-SEM has a minimum condition regarding sample size, as it is based on ordinary least squares regressions and is less strict when analysing with non-normal data (Hair et al., 2014).

Table I. Profile of respondents

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Frida Kahlo museum FFP followers</th>
<th>Anahuacalli museum FFP followers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Frequency</td>
<td>Percentage</td>
</tr>
<tr>
<td>Female</td>
<td>113</td>
<td>87</td>
</tr>
<tr>
<td>Male</td>
<td>50</td>
<td>58</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤17</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>18-25</td>
<td>22</td>
<td>17</td>
</tr>
<tr>
<td>26-35</td>
<td>49</td>
<td>46</td>
</tr>
<tr>
<td>36-45</td>
<td>35</td>
<td>45</td>
</tr>
<tr>
<td>46-55</td>
<td>37</td>
<td>24</td>
</tr>
<tr>
<td>56-65</td>
<td>13</td>
<td>9</td>
</tr>
<tr>
<td>&gt;66</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Secondary</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Undergraduate/graduate</td>
<td>105</td>
<td>90</td>
</tr>
<tr>
<td>Postgraduate</td>
<td>49</td>
<td>48</td>
</tr>
<tr>
<td>Nationality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>National</td>
<td>100</td>
<td>116</td>
</tr>
<tr>
<td>Other</td>
<td>63</td>
<td>29</td>
</tr>
<tr>
<td>Country of residence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mexico</td>
<td>101</td>
<td>118</td>
</tr>
<tr>
<td>Other</td>
<td>62</td>
<td>27</td>
</tr>
<tr>
<td>N° of times visited the museum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-5 this year</td>
<td>57</td>
<td>52</td>
</tr>
<tr>
<td>&gt;5 this year</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td>I have not visited this year</td>
<td>45</td>
<td>35</td>
</tr>
<tr>
<td>Never</td>
<td>50</td>
<td>45</td>
</tr>
<tr>
<td>Time spent today on museum FFP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-5 min</td>
<td>29</td>
<td>37</td>
</tr>
<tr>
<td>6-10 min</td>
<td>55</td>
<td>50</td>
</tr>
<tr>
<td>11-15 min</td>
<td>30</td>
<td>31</td>
</tr>
<tr>
<td>&gt;16 min</td>
<td>49</td>
<td>27</td>
</tr>
</tbody>
</table>
Table III shows the results of the measurement model reliability and convergent validity tests for both samples. Hair et al.’s (2011) benchmarks were followed (Table III): standardized indicator loadings were higher than 0.70, a composite reliability higher than 0.70 assured internal consistency, convergent validity was corroborated by an average variance extracted (AVE) higher than 0.50 and discriminant validity was confirmed, as each construct’s AVE is higher than its squared correlation with any other construct.

4.2 Assessment of the structural model

$R^2$ was assessed to determine the model’s explanatory power (Hair et al., 2014); the dependent constructs of both samples were above 0.10 (Falk and Miller, 1992), presenting substantial values (Cohen, 1988). Also, positive Stone–Geisser’s $Q^2$ were calculated using
Table III. Reliability and convergent validity of the measurement model

<table>
<thead>
<tr>
<th>Factor</th>
<th>Indicator</th>
<th>Standardized loading</th>
<th>t-value (bootstrap)</th>
<th>CA</th>
<th>rho_A</th>
<th>CR</th>
<th>AVE</th>
<th>Standardized loading</th>
<th>t-value (bootstrap)</th>
<th>CA</th>
<th>rho_A</th>
<th>CR</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frida Kahlo museum FFP followers</td>
<td>MGC1</td>
<td>0.881</td>
<td>41,586</td>
<td>0.948</td>
<td>0.949</td>
<td>0.958</td>
<td>0.793</td>
<td>0.877</td>
<td>38,776</td>
<td>0.942</td>
<td>0.942</td>
<td>0.954</td>
<td>0.776</td>
</tr>
<tr>
<td></td>
<td>MGC2</td>
<td>0.829</td>
<td>24,467</td>
<td>0.862</td>
<td></td>
<td>0.862</td>
<td>0.823</td>
<td>31,087</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MGC3</td>
<td>0.898</td>
<td>45,837</td>
<td>0.885</td>
<td></td>
<td>0.885</td>
<td>0.853</td>
<td></td>
<td>31,532</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MGC4</td>
<td>0.914</td>
<td>49,061</td>
<td>0.906</td>
<td></td>
<td>0.906</td>
<td>0.883</td>
<td></td>
<td>44,583</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MGC5</td>
<td>0.914</td>
<td>58,346</td>
<td>0.901</td>
<td></td>
<td>0.901</td>
<td>0.877</td>
<td></td>
<td>45,315</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MGC6</td>
<td>0.905</td>
<td>47,493</td>
<td>0.901</td>
<td></td>
<td>0.901</td>
<td>0.877</td>
<td></td>
<td>45,315</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived information quality</td>
<td>PIQ1</td>
<td>0.875</td>
<td>35,127</td>
<td>0.935</td>
<td>0.945</td>
<td>0.954</td>
<td>0.837</td>
<td>0.791</td>
<td>12,937</td>
<td>0.900</td>
<td>0.911</td>
<td>0.931</td>
<td>0.772</td>
</tr>
<tr>
<td></td>
<td>PIQ2</td>
<td>0.916</td>
<td>58,065</td>
<td>0.876</td>
<td></td>
<td>0.876</td>
<td>0.854</td>
<td></td>
<td>25,760</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PIQ3</td>
<td>0.946</td>
<td>100,163</td>
<td>0.940</td>
<td></td>
<td>0.940</td>
<td>0.910</td>
<td></td>
<td>80,910</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PIQ4</td>
<td>0.922</td>
<td>65,086</td>
<td>0.900</td>
<td></td>
<td>0.900</td>
<td>0.874</td>
<td></td>
<td>45,426</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived customer service</td>
<td>PCS1</td>
<td>0.850</td>
<td>36,678</td>
<td>0.854</td>
<td>0.872</td>
<td>0.910</td>
<td>0.771</td>
<td>0.852</td>
<td>30,217</td>
<td>0.854</td>
<td>0.861</td>
<td>0.911</td>
<td>0.774</td>
</tr>
<tr>
<td></td>
<td>PCS2</td>
<td>0.900</td>
<td>29,891</td>
<td>0.924</td>
<td></td>
<td>0.924</td>
<td>0.917</td>
<td></td>
<td>60,090</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PCS3</td>
<td>0.884</td>
<td>29,686</td>
<td>0.861</td>
<td></td>
<td>0.861</td>
<td>0.845</td>
<td></td>
<td>29,325</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visit intention</td>
<td>VIN1</td>
<td>0.888</td>
<td>50,760</td>
<td>0.850</td>
<td>0.868</td>
<td>0.908</td>
<td>0.768</td>
<td>0.878</td>
<td>31,793</td>
<td>0.867</td>
<td>0.883</td>
<td>0.918</td>
<td>0.789</td>
</tr>
<tr>
<td></td>
<td>VIN2</td>
<td>0.886</td>
<td>27,416</td>
<td>0.924</td>
<td></td>
<td>0.924</td>
<td>0.897</td>
<td></td>
<td>46,586</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>VIN3</td>
<td>0.855</td>
<td>25,026</td>
<td>0.861</td>
<td></td>
<td>0.861</td>
<td>0.831</td>
<td></td>
<td>20,298</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: All loadings are significant at $p < 0.01$ level. CA = Cronbach’s alpha; CR = composite reliability.
4.3 Multi-group analysis
As Henseler et al. (2016) posit, measurement invariance must be tested before performing the MGA. The measurement invariance of composites (MICOM) evaluates the measurement invariance to compare and determine the MGA group-specific differences of PLS-SEM results (Henseler et al., 2016). The assessment of MICOM involves three steps:

1. a configural invariance assessment;
2. the establishment of a compositional invariance assessment; and
3. the assessment of equal means and variances (Rasoolimanesh et al., 2017).

To compare and interpret MGA group-specific differences, at least partial measurement invariance (Steps 1 and 2) should be verified (Henseler, Ringle and Sarstedt, 2016), and we do so in this research (Table VI).

Table VII shows that the MGA results were determined using two different nonparametric tests: Henseler’s MGA (Henseler et al., 2009) and the permutation test (Chin and Dibbern, 2010). Henseler’s MGA compares group bootstrap estimates from each bootstrap sample, where a \( p \)-value lower than 0.05 or higher than 0.95 indicates, at a 5 per cent level, significant differences between specific path coefficients across two groups (Henseler et al., 2009; Sarstedt et al., 2011). The permutation test recognizes differences at the 5 per cent level of significance if the \( p \)-value is lower than 0.05.

The findings show that MGC has a positive and significant influence on perceived information quality (H1; Frida Kahlo museum FFP followers \( \beta = 0.876 \ p < 0.01 \); Anahuacalli museum FFP followers \( \beta = 0.803 \ p < 0.01 \)) and on perceived customer service (H2; Frida Kahlo museum FFP followers \( \beta = 0.870 \ p < 0.01 \); Anahuacalli museum FFP followers \( \beta = 0.803 \ p < 0.01 \)).

Table IV. Measurement model discriminant validity

<table>
<thead>
<tr>
<th>Concept</th>
<th>Frida Kahlo museum FFP followers</th>
<th>Anahuacalli museum FFP followers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived customer service</td>
<td>0.554</td>
<td>0.599</td>
</tr>
<tr>
<td>Perceived information quality</td>
<td>0.767</td>
<td>0.644</td>
</tr>
<tr>
<td>Visit intention</td>
<td>0.52</td>
<td>0.483</td>
</tr>
</tbody>
</table>

Table V. Evaluation of the estimated models
### Results of Invariance Measurement Testing Using Permutation

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Compositional invariance (correlation = 1)</th>
<th>Equal mean assessment</th>
<th>Equal variance assessment</th>
<th>Full measurement invariance established</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Configural invariance (same algorithms for both groups)</td>
<td>Partial measurement invariance established</td>
<td>Differences</td>
<td>Confidence interval</td>
</tr>
<tr>
<td>Perceived customer service</td>
<td>Yes</td>
<td>0.999 0.997</td>
<td>Yes</td>
<td>−0.242</td>
</tr>
<tr>
<td>Perceived information quality</td>
<td>Yes</td>
<td>1.000 0.999</td>
<td>Yes</td>
<td>−0.136</td>
</tr>
<tr>
<td>MGC</td>
<td>Yes</td>
<td>1.000 1.000</td>
<td>Yes</td>
<td>−0.066</td>
</tr>
<tr>
<td>Visit intention</td>
<td>Yes</td>
<td>0.999 0.998</td>
<td>Yes</td>
<td>−0.106</td>
</tr>
</tbody>
</table>
### Table VII. Hypotheses testing

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Relationship</th>
<th>Frida Kahlo museum FFP followers</th>
<th>Anahuacalli museum FFP followers</th>
<th>Confidence interval (95%)</th>
<th>Path coefficient difference</th>
<th>$p$-value difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>$H_1$</td>
<td>MGC perceived → information quality</td>
<td>0.876***</td>
<td>0.803***</td>
<td>0.8210.914 0.7040.863</td>
<td>0.073</td>
<td>0.960*</td>
</tr>
<tr>
<td>$H_2$</td>
<td>MGC Perceived → customer service</td>
<td>0.744***</td>
<td>0.774***</td>
<td>0.6250.829 0.6890.833</td>
<td>0.029</td>
<td>0.338</td>
</tr>
<tr>
<td>$H_3$</td>
<td>Perceived information quality → visit intention</td>
<td>0.600***</td>
<td>0.164*</td>
<td>0.3730.803–0.0400.334</td>
<td>0.436</td>
<td>0.997***</td>
</tr>
<tr>
<td>$H_4$</td>
<td>Perceived customer → service visit intention</td>
<td>0.156</td>
<td>0.568***</td>
<td>−0.0780.372 0.3850.705</td>
<td>0.413</td>
<td>0.002***</td>
</tr>
</tbody>
</table>

**Notes:** In Henseler's MGA method, the $p$-value lower than 0.05 or higher than 0.95 indicates at the 5 per cent level significant differences between specific path coefficients across groups. $^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.10$
museum FFP followers $\beta = 0.744 \ p < 0.01$; Anahuacalli museum FFP followers $\beta = 0.774 \ p < 0.01$). The results show that perceived information quality has a positive and significant influence on visit intention for both samples ($H3$; Frida Kahlo museum FFP followers $\beta = 0.600 \ p < 0.01$; Anahuacalli museum FFP followers $\beta = 0.164 \ p < 0.1$). Finally, the results show that perceived customer service has a positive and significant influence on visit intention for Anahuacalli museum FFP followers ($H4; \beta = 0.568 \ p < 0.01$), whereas its influence on Frida Kahlo museum FFP followers is not significant ($H4; \beta = 0.156; \ p > 0.10$).

The permutation method shows that perceived information quality has a higher and significant effect on visit intention to the Frida Kahlo museum than to the Anahuacalli museum ($H3; p\text{-value} = 0.005 \ p < 0.01$) and perceived customer service on visit intention ($H4; p\text{-value} = 0.012 \ p < 0.05$), this time being higher for the Anahuacalli museum. In addition, Henseler’s MGA shows differences in the two aforementioned linkages ($H3; p\text{-value} = 0.997 \ p < 0.01; H4; p\text{-value} = 0.002 \ p < 0.01$) and a small difference between the two museum FFP followers in the relationship between MGC and perceived information quality ($H1; p\text{-value} = 0.95 \ p < 0.10$), the coefficient being higher for the Frida Kahlo museum. Henseler’s MGA and the permutation method similarly validate the significance and non-significance of the differences, establishing a multi-method confirmation of the results.

5. Discussion and implications
This study adds value to earlier MGC studies by analysing the direct effects of:
- MGC on perceived information quality;
- MGC on perceived customer service;
- perceived information quality on visit intention; and
- perceived customer service on visit intention, for two samples, the Frida Kahlo and Anahuacalli museums’ FFP followers.

This research assesses these different relationships of the two museum FFP followers’ samples to identify noteworthy and useful conclusions.

As expected, the results show that MGC has a meaningful and positive influence on perceived information quality ($H1$) and perceived customer service ($H2$) in both samples. As some scholars indicate, potential consumers consult social media to gain confidence about their purchase decisions (Goh et al., 2013). The organization should create postings that address customers’ needs (Ye et al., 2011). Although both relationships were found to be significant (with the same size effects) in both samples, Henseler’s MGA showed a slight difference in the linkage between MGC and perceived information quality in the two samples. In the Frida Kahlo case, the path coefficient was found to be slightly higher than for the Anahuacalli sample. This difference could exist because the Frida Kahlo museum is more focussed on controlling the quality and the timeliness of the postings on its FFP (because of its objective of creating an online community) than is the Anahuacalli museum, which is more concerned about providing information about the artist to attract visitors.

The empirical results show that perceived information quality has a significant and positive effect on visit intention ($H3$), as we anticipated. This finding corroborates prior research regarding the effect of perceived information quality on behavioural intentions (Chiu et al., 2005; Lee and Shin, 2014; Kim and Niehm, 2009; Park et al., 2007) and proves, for the first time, this positive effect in FFPs and in relation to visit intention. In addition, this linkage was compared between the two samples. Interestingly, Henseler’s MGA and the permutation method results show differences between the two museum FFP followers. The effect size of this relationship is higher in the Frida Kahlo case than for the Anahuacalli
sample. This difference could be explained by the fact that its followers might consider that
the information offered in Frida Kahlo museum FFPs is more oriented towards up-to-date
and accurate postings aiming at creating an online community, whereas Anahuacalli FFP
followers may perceive the data as more focused on Diego de Rivera, and his donations of
pre-Columbian art pieces to the museum, to attract visitors.

Although the linkage between perceived customer service and visit intention has not been
widely examined (H4) (Zeng et al., 2009), the results for the Anahuacalli museum FFP followers
show a positive and significant effect. However, this relationship was found to be insignificant
for the Frida Kahlo sample. Accordingly, Henseler’s MGA and permutation method results
show a difference between the two samples. In accordance with the previous discussion, it
seems that the Anahuacalli museum aims to attract visitors, which explains why the museum
FFP is devoted to promptly addressing visitors’ needs, inquiries and problems. The
insignificant effect found in the Frida Kahlo sample could be because the museum’s FFP
objective is to create an online community. However, the updated and accurate postings (i.e.
perceived information quality) of the Frida Kahlo museum FFP have a positive effect on visit
intention, as the information fosters users’ interest in visiting the museum.

This research provides many theoretical contributions related to MGC, perceived information
quality, perceived customer service and visit intention. First, no study has been found that
examines the impact of the perceived information quality and perceived customer service of
FFPs’ postings on visit intention. This study proposes a model to examine these linkages and the
effects of MGC on perceived information quality and perceived customer service, which are also
analysed for a first time in the FFP context. Second, Henseler’s MGA and the permutation
method evidence that there are significant differences between the two samples in the direct
impacts of perceived information quality on visit intention and perceived customer service on
visit intention. These findings can add value to future research into this topic. Third, this study
contributes to social network site literature and to tourism research, as it tests these effects with
two samples using PLS-MGA.

The present research also provides useful information for museum managers and staff
responsible for boosting visitor numbers. First, we found that MGC has a positive impact on
perceived information quality and perceived customer service. Owing to this finding, in
relation to the effects of marketer-generated content, it is recommended that both museums
encourage followers’ postings (e.g. sharing photographs of ambient marketing actions or
photo calls). Where there are frequent postings from followers, organizations can facilitate
dialogue and offer information and service that meets their customers’ needs. The internet
has changed the customer journey, and there is a need to give information to the customer at
the different stages of the process (Lemon and Verhoef, 2016). Therefore, museums should
foster MGC (Buhalis and Law, 2008; Hofacker and Belanche, 2016; Yoo and Gretzel, 2017).
Social media enable museums to engage with a worldwide network of potential visitors.
These potential visitors can take part in the design and production of the museum’s cultural
services through their postings; this might also maximize their museum experience
(Camarero et al., 2018; Padilla-Melendez and Del Aguila-Obra, 2013; Vassilakis et al., 2017).

Second, we find that perceived information quality positively and significantly influences
visit intention. As information quality is considered a determinant of behavioural intentions in
the online context (Kim et al., 2017), it would be interesting to link the news and information
related to the two artists appearing in other media sources and post this on the FFPs, so that
their followers perceive the FFP as a source of updated information. For instance, Mattel Inc
has recently launched a Frida Kahlo Barbie doll, and Emoji has launched a FridaMoji. News or
information about these two developments might be of interest to FFP followers and could be
posted on the FFPs. Specifically, as suggested by Camarero et al. (2018), content – informative
and entertaining – and relational – interactive – Facebook communications should be encouraged to prompt followers to comment (UGC), share and like (virality).

The Frida Kahlo museum posts photos when celebrities or famous persons visit the museum. Both museums could make use of ambient marketing strategies to increase the number of photos shared by visitors in social media, following the example of the Museum of Art of Sao Paolo and the Museum of Ice Cream. Moreover, Pallud (2016) points out that mobile applications allow professionals to interact with potential visitors in real time. In this way, the museums could identify influential followers who have visited the museum and who might facilitate interactions with other followers. The influential followers might answer questions and enrich the FFPs with their opinions of the museum experience (Casalo et al., 2017a; 2018; Hofacker and Belanche, 2016).

Third, we found that perceived customer service has a positive and significant effect on visit intention in the Anahuacalli case. Although this was not proved for the Frida Kahlo museum, many researchers note that social network sites are being used as tools to improve perceived customer service tools (Gallaugher and Ransbotham, 2010; He et al., 2016; Kietzman et al., 2011). As organizations must respond quickly to customers’ needs and desires, we suggest that both museums periodically carry out benchmarking exercises to ensure they are following best practices, not only against museums but also other edutainment contexts (Recuero et al., 2017).

5.1 Limitations and future research lines
There are limitations to this study. First, the samples are followers of two Mexican museums; this can lead to bias, as they may not be reflective of the general context for all museums. Also, the samples are mainly made up of women. In consequence, we encourage researchers to test samples in museums in other parts of the world and to use the same proportion of female and male respondents. Second, the samples are mainly Mexican nationals, and hence, it would be very useful for scholars to analyse the proposed model with samples including a higher percentage of international followers. Third, the multi-group comparison shows differences between the two museum FFPs’ followers and, therefore, scholars are encouraged to analyse the proposed model in other contexts. Moreover, as Instagram is growing in user numbers, it would be interesting for scholars to study that platform (Casalo et al., 2017b); for instance, by analysing the symbolic consumption of these experiences and the use of Instagram (Luna-Cortes, 2017), considering Casalo et al.’s (2017a) model that posits a perception–evaluation–intention chain that could also include visit intention. Also, the role of opinion leadership on visitor behavioural intentions might be examined (Casalo et al., 2018). Fourth, scholars are encouraged to include a control variable that takes into account the phase of the customer journey the respondents are in when they answer the questionnaire, to gain knowledge regarding the drivers of visit intention at each stage. Other aspects could be considered to analyse their impact on behavioural intentions, such as factors that improve website design (i.e. appearance, navigation, content and shopping process) (Flavian et al., 2009a, 2009b). Fifth, our research focus was to analyse these relationships between the Frida Kahlo museum and Anahuacalli museum FFPs, but we suggest scholars conduct a multi-group comparison that examines the differences between marketer-generated content and UGC to discover how to boost visit intention among FFP users.

References


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Setting acceptable prices: a key for success in retailing

Fijación de precios aceptables: clave para el éxito en el comercio detallista

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Abstract

Purpose – This research enables the authors to highlight the importance of proper pricing for retailers. The purpose of this paper is to demonstrate the importance of demand-based pricing, providing empirical results that reveal the validity of this pricing philosophy in the sport retailing industry. In particular, this study has identified the limits of acceptable prices for the products studied, selected the most appropriate method for pricing products suffering from high competition and compared the impact produced on price perceptions according to different retail environments to be able to relate changes in the acceptable prices ranges according to the geographical location of each point of sale, differentiating between rural or urban environment and type of client.

Design/methodology/approach – The authors have carried out surveys of 350 customers in each of the three points of sale analysed. Therefore, there are a total of 1,050 interviewees, for the three products analysed. The direct method of acceptable prices setting is developed. In addition, ANOVA and t-test have been carried out to find differences between the three shops.

Findings – One main finding is that the acceptable price range is not unique. Each point of sale has one that is distinct because it depends on many factors: the competition, the economic capacity of the closest residents, the location of the point of sale or the ability to attract customers.

Originality/value – The foremost contribution of this paper is to demonstrate empirically how considering the local demand at setting prices would generate larger earnings, even for a small retail chain. The direct method of setting acceptable prices enables us to set the prices according to the demand. The best option is if these prices are above the costs. It can be noted that the prices should be set according to each shop, and a different price used in each point of sale to maximise profits and to adapt to what the typical customer of each shop is willing to pay, despite the products being the same and the points of sale belonging to the same retail chain.

Keywords Retailing, Demand, Price range, Pricing

Paper type Research paper
Resumen

Objetivos – Esta investigación nos permite resaltar la importancia de una fijación de precios adecuada para los minoristas. El objetivo principal de esta investigación es demostrar la importancia de la fijación de precios basada en la demanda, proporcionando resultados empíricos que revelan la validez de esta filosofía de fijación de precios en el sector minorista de productos deportivos. En particular, en este estudio se han identificado los intervalos de precios aceptables para los productos estudiados; se ha seleccionado el método más apropiado para la fijación de precios de productos que sufren alta competencia; y se ha comparado el impacto en las percepciones de precios según el entorno detallista y se han encontrado cambios en los intervalos aceptables de precios en función de la localización geográfica del punto de venta, diferenciando entre entorno rural y urbano, y el tipo de cliente.

Metodología – Los autores han realizado encuestas a 350 clientes en cada uno de los 3 puntos de venta analizados. Por lo tanto, hay un total de 1050 entrevistados, para los 3 productos analizados. Se desarrolla el método directo de fijación de precios aceptables. Además, se han realizado pruebas ANOVAs y T para encontrar diferencias entre las 3 tiendas.

Resultados – Un hallazgo principal es que el intervalo de precios aceptable no es único. Cada punto de venta tiene uno distinto porque depende de muchos factores: la competencia, la capacidad económica de los residentes más cercanos, la ubicación del punto de venta o la capacidad de atraer clientes.

Originalidad/valor – La principal contribución de este artículo es demostrar empíricamente cómo considerar la demanda local al establecer precios generaría mayores ganancias, incluso para una pequeña cadena minorista. El método directo de establecer precios aceptables nos permite establecer los precios de acuerdo con la demanda. La mejor opción es si estos precios están por encima de los costos. Se puede observar que los precios deben establecerse de acuerdo con cada tienda, y se debe usar un precio diferente en cada punto de venta para maximizar los beneficios y adaptarse a lo que el cliente típico de cada tienda está dispuesto a pagar. A pesar de que los productos son los mismos y los puntos de venta pertenecientes a la misma cadena minorista.

Palabras clave – Fijación de precios, Precios aceptables, Sector minorista, Demanda, Intervalo de precios

Tipo de artículo – Trabajo de investigación

1. Introduction

At the dawn of marketing, McCarthy showed that the price, along with the product, the point of sale and the promotion are the four classic variables on which Marketing is centred (McCarthy, 1964). Specifically, the price is the variable via which it is meant to fulfill the value in the market that is created by the other three. In research within the retail business, price setting is one of the subjects which is most printed in the main journals that tend to publish scientific articles in this sector (Finnegan et al., 2016; Fasnacht and El Husseini, 2013). Price is not the only determining factor in a consumer’s decision-making process (Ruiz-Real et al., 2018), but in many retail sectors is quite relevant. Academic discipline of marketing gives the impression to have fallen over affecting positive change in practical pricing practice. This gap will involve pricing marketing academics to work with retailers and price practitioners to understand their daily requests (Watson et al., 2015). This study tries to help filling this gap with.

Thus, price setting is a process of foremost importance and complexity, as it must consider the firm’s environment and the competition. It must also bear in mind the repercussions which it entails, highlighting those that are financial, commercial and strategic (Cebollada-Pascual and Mugica-Grijalba, 1997). In general, pricing decisions are affected by cost information, consumer buying behaviour, and competition (Uusitalo and Rökm, 2007). In daily practice, the optimal price is rarely known by managers because of the extensive variety of factors that can influence the consequences of a pricing decision (Rusetksi et al., 2014). Especially service firm executives should pay more attention to product price to appeal to customers (Chang and Wong, 2018). Perhaps because of this idea, price setting continues being a controversial question, as is shown by the multitude of methods to carry it out. Fundamentally based on the cost, on the demand and on the competition. Among the methods based on the demand, this study analyses that of acceptable price setting. To
know the limits that the customer is willing to pay for firms’ products is very important for companies. That is to say, the interval of acceptable prices within which supply and demand has more likelihoods of coinciding (Rosa-Díaz et al., 2013).

It is difficult to find empirical works in the specialised literature which put into practice this method of setting prices and even more so in the retail business. This is probably because it is hard to get the necessary information.

The management of price strategies in distributing companies is especially problematic and complicated with respect to the rest of the industries. This is because of different causes (Rosa-Díaz et al., 2013):

- Prices must be determined for thousands of very diverse goods.
- The price aims of the makers can be very different from the price aims of the intermediaries.
- The prices of the products influence their own sales and those of the competing and complementary goods of the same establishment.
- An image of integral prices of the chain must be conceived from the prices of thousands of products.

Therefore, this investigation reveals the relevance of an appropriate price setting for the retail business. The main purpose of this research is to demonstrate the importance of demand-based pricing, providing empirical results that reveal the validity of this pricing philosophy in the sport retailing industry. Specifically, this study:

- identifies the limits of acceptable prices for the products studied;
- chooses the most appropriate method for the price setting of products that are highly competitive with similar products; and
- compares the impact produced according to the different environments of the points of sale to be able to relate the variations of the price ranges of acceptable prices according to the geographical location of each point of sale, differentiating between rural or urban environment, and types of consumers.

The main contribution of this paper is to show empirically how considering the local demand at fixing prices would produce bigger incomes, even for a small retail chain. The advantages of demand-based pricing are well documented in terms of customer satisfaction and loyalty (Heo et al., 2013; Kimes and Wirtz, 2002). However, the studies of the effects of these pricing policies from the offer perspective are underdeveloped.

To carry out this study, the authors have had access to a small family firm which has three points of sale in the province of Seville (Spain) – one in a rural zone with a low population density and the other two in urban zones within high-density cities. Three standard quality products have been analysed: a tracksuit, a football kit and running shoes. They are of an unknown brand, so the brand effect does not affect the price analysis, and they have a lot of competition. The customers have been interviewed and their reactions to price changes have been measured as well as the differences by sex, age and the type of environment where the shop is located.

The rest of the work is structured as follows. In Section 2, the investigation’s theoretical framework is outlined. In Section 3, the methodology used is dealt with. In Section 4, the main results are presented. Section 5 gives the discussion, and in Section 6, the conclusions are drawn.
2. Theoretical framework

The price is the value which each seller requires in exchange for a product or a service, the customer being who decides to accept it or not. The success of a pricing strategy depends upon customers being willing to pay the price you charge (Nagle and Müller, 2017). In the traditional conception of the economy, the price appears as a given element which contrasts with the current view of the price as a very important decision factor, and which has given rise to different research lines in Marketing. Moreover, price setting in the retail business is especially complex because of the great quantity of products which are sold and which therefore need sales prices (Rosa-Díaz et al., 2013).

Customers form an expectation of the product when they acquire it and evaluate it with a reference price that they expect to pay for the acquisition. The reference price is the price stored in a consumer’s mind that serves as a point of comparison for future purchases and denotes the price that he/she considers a product should cost (Kimes and Wirtz, 2002; Unni et al., 2010). Consequently, the reference price is the price that the customer applies to compare and resolve whether a product is expensive or cheap (Gupta and Kim, 2010; Monroe, 1973). The customer establishes the reference price based on information about previous prices, contextual variables and future price expectations when making a purchase decision, considering the economic conditions, consumer characteristics, feelings and all the information available at the time of choosing (Verhoeven et al., 2009). Furthermore, the reference price is expected to be within the acceptable price range, and price limits are slightly “shaped” by the prices to which they are exposed all through their shopping event (Kosenko, 2015). The role of reference price on some purchase issues such as store choice should be examined (Mazumdar et al., 2005), and the study of prices based on demand in relation to the type of store could put some light on this issue of store choice.

The topics that form the literature background of this research are the price strategies in the retail business, the setting of acceptable prices and price range and demand-based pricing. The following subheadings are dedicated to these issues.

2.1 Price strategies in the retail business

Price setting is not to simply set the monetary quantity for the buyer to pay in a future purchase, but has numerous consequences in the market, on the competition, etc. It can also become a fundamental part of a strategy which considers the characteristics of the product, market, distribution system, etc. In addition, this variable together with product selection and atmosphere are important attributes on choosing retail grocery formats (Carpenter and Moore, 2006).

The design of the pricing strategy is very important, as it has to be taken into account in the development of the firm’s aims, the market situation and flexibility (Nagle et al., 2016). A multitude of factors exist for price setting: costs, competition, market, demand and psychology.

Many different aspects of pricing strategy have been dealt with in the retailing arena. Some relevant issues related to new technologies are pointed out revising recent literature about this topic. For example, Menon et al. (2016) demonstrated the U-shape of the function for fixations on price using eye tracking on a Facebook page that showed clothes. Furthermore, related to new technologies, other researchers studied how blogs and online discussion boards could conduct to price discounts in one channel rising product recognition in other competing sales channels, therefore decreasing or even inverting the cannibalisation consequences (Verhoef et al., 2015). In addition, recent research proved that the position of the sale price in displays and communications online could have substantial influences on customers’ price perceptions (Grewal et al., 2017). According to this idea, one of the findings
of Roggeveen et al. (2015) is that buyers exposed to dynamic presentation formats become less price sensitive. Other researchers suggested and tested a best-response pricing strategy through a controlled live experiment in online retailing to respond competitors’ price changes (Fisher et al., 2017). However, studies related to traditional brick and mortar retailers, like this one, are scarce nowadays. In this area, a study demonstrated that probabilistic and markdown selling strategies operate as price discrimination instruments by presenting consumers a possibility to obtain some products or services (Rice et al., 2014).

On the other hand, differential strategies are those in which prices are set considering the differences between consumers. These differences can be demographic characteristics, location, temporal and socio-economic.

For this type of strategies, the following conditions have to be given:

- The market must not be homogenous, there existing different consumers with their own price elasticities.
- Discriminatory prices must be legal.
- There is the possibility of setting different prices without producing dissatisfaction in some consumers.

Price discrimination for the same product according to some of the factors which have been mentioned can give rise to achieving greater profitability or profits than those that could obtain selling everywhere at the same price (Rice et al., 2014). Examples of discrimination can be the difference of prices between the north and the south of a country. There are firms in which the same tracksuit, or any other product, can have an acceptable price quite higher in the north than in the south (Rondán Cataluña, 2004), or between shops with different competitive environments even in the same chain. This is because the characteristics of the customers of a shop’s environment are going to influence their perception of prices (Macé, 2012). Furthermore, some authors concluded that price elasticity by buyers may vary across store setting and store type (Huddleston et al., 2009).

In this group of strategies, the following can be differentiated:

- Strategies based on fixed or variable prices: This is based on the product being sold to all the customers at the same price and in the same conditions. This strategy tends to be common in products with a great movement and a low price. In the items with unaffordable prices or of the services sector, these are likely to be variable as they are usually subject to negotiation in every transaction.
- Discount depending on the quantity: This is a strategy followed by some firms to achieve greater sales via a reduction in the price according to the quantity. This quantity-based price is non-linear.
- Discount for advance payment: The payment in the market is a variable to be considered by the firm. This strategy awards advance payment with a discount on the price. It is not a fixed price but varies according to each firm.
- Deferred payment: Unlike with early payments, in this case, the buyer does not pay in cash or in little time but requests a payment at later dates. The possibility of doing so is the firm’s decision and if it is done there is a penalisation in the form of a surcharge or of deferred interest payments. It is a way to encourage sales, as it does not limit the buyer to having the necessary amount at the moment of purchase – this purchase can be paid later, after the sale has been made.
Discounts in the form of offers: With these types of strategies, firms can capture new customers via decreasing prices without prior knowledge. This price reduction should be studied for the money which will not be gained because of lowering the price to be compensated by the increase in the number of sales.

Seasonal discounts: Unlike the latter, these price decreases are foreseen, and consumers know about them. They are fixed by periods of time or seasonal sales. With sales or periodical discounts, firms manage to reach two kinds of costumers with different demand elasticities. There are customers who are less price-sensitive and buy in periods without discounts and there are other customers whose price sensitivity is high and who prefer to buy in discount periods. The quality of the product is the same; the channel can also be the same, only the price varies, which is why its sensitivity is high.

Discounts in the second market: Called second market to distinguish between being within the market of some consumers with respect to others. These consumers will access a price with a discount that is different from that of the rest of the consumers. To do so, they must fulfil a series of demographic or socio-economic characteristics which will be fixed by the firm. This price difference means discrimination according to the consumer’s demographic or socio-economic characteristics. Examples of these discounts are civil servants, the unemployed, the retired, etc.

Prices of professionals: Specific professionals, such as doctors, lawyers, economists, etc., set standard prices for a series of services, irrespective of the time needed to provide them. This gives the consumer a greater clarity.

Ethical prices: There are products used with social aims, which are fixed with a price in accordance with the buyer’s capacity. They tend to be necessities, to which ethically the consumer should be able to have access.

On the other hand, competitive strategies are based on competition through prices. Managers can seek a reaction in favour of their firms and against their competitors, lowering, equalling or raising prices.

In the face of a highly competitive market and very tight prices between competitors, care must be taken concerning a sharp fall in prices. To do so gives rise to a price war which does not benefit anyone.

If the product which a firm offers is superior to those of its competitors, such as a higher quality or having additional services, we may set higher prices than the competition. These prices are called “primed” or “premium” prices.

On the other hand, if our product has a lower quality, we will opt for a strategy of low prices. This strategy can also be used to seek scale economies, raising sales to a rhythm capable of generating an exponential growth of profits. This policy is currently used a great deal in Internet and massive purchases.

It is easy to understand that for the price of the product to increase because of an increase in the product’s quality, it is necessary for the consumer to able to perceive it.

As well as these strategies, there are also “loss-making sales”, which, as their name implies, consists of selling below the cost price to obtain promotion, clearance sales, stock clearance, and even harming or eliminating competitors.

2.2 Setting acceptable prices and price range
For all firms, it is important to set prices to achieve an interval within which their product has an acceptable price. This is essential for survival and growth, as all prices outside this
interval will cause minimum or null sales or, in other words, reduce the demand of the product to the minimum. Price acceptance is founded on the assimilation-contrast theory (Sherif et al., 1958). This theory proposes that a recent stimulus met by a person is ruled on compared to a background of preceding experience in the category. Studies in this arena has employed the assimilation-contrast theory to price perceptions and suggested latitude of price acceptance (Kalyanaram and Little, 1994; Martin-Consuegra et al., 2007). The level of price acceptance can consequently be described as the maximum price that a consumer is able to pay for the product or service (Monroe, 1990).

The acceptable prices interval is the set of prices within some limits in which the supply receives a response from the demand. These are represented in the higher level as excessively unaffordable prices and in the lower level as excessively low prices (Rosa-Díaz et al., 2013).

The variation of the price within this interval generates an impact on the demand. A lower price is going to produce an increase in the demand. However, if it is excessively low this can cause the consumer to consider a loss of quality, which leads to a decrease of the demand. On the other hand, an excessively high price can make the consumer consider that the product is expensive and the demand will also decrease (Karani et al., 2013).

To analyse the variations of setting – the increase or decrease of the price – our study will centre on a definition, the “acceptable price range”. This interval varies according to the economic situation of the market. In moments, downturn price wars are intensified (thus reducing the interval). Although when there is an economic boom, the interval is broadened and the price loses importance to other marketing variables (Pelegrin-Borondo et al., 2014).

For example, during an economic crisis there is an upsurge of customers in the factory outlet stores. This indicates that the customer gives less importance to the product being new or of a worse quality. This increases the impact of a correct price setting in the crisis period in which the price variable has a preferential value.

The range of price acceptation is a term made up of two dimensions, defined as a “level dimension” (the price level at which the price acceptation zone is extended) and by a “breadth dimension” (the breadth of the latitude of acceptation). Consequently, customers take as a reference a zone in which are circumscribed a continuous series of prices which they believe are acceptable for the level of quality of the good considered. This thus establishes the set of prices which they are willing to pay. The prices outside this zone are, being too low or too high, estimated to be unsatisfactory and therefore unacceptable. The presence of a lower limit for a product’s acceptable price range implies that the customer carries out associations between the price and the quality of the good (the levels of excessively low prices are different from an insignificant quality). On the other hand, the upper limit of the acceptable price range embodies the higher value that the customer is willing to pay for the product (Rosa-Díaz et al., 2013).

Although the sales volume or offer is set by not only the product’s price but also numerous variables (competition, sales, force, advertising, distribution, product, etc.), it is true that most of the retail business centres its marketing strategy on the price. As has happened traditionally and still now, because of the scant development of this sector and its marketing managers (Rosa-Díaz and Rondan-Cataluña, 2012).

In the background of price evaluations, latitude of acceptance is made up of an acceptable price range around a reference point. The price differences falling within consumers’ acceptable price ranges are accepted, when price differences fall outside the acceptable price range, they are rejected (Heo et al., 2013). At some point above the reference price, some buyers will find the good too expensive and stop purchasing, this is the upper absolute price threshold. On the contrary, at some position where the price is so low that some customers
notice it to be too low and become doubtful of its quality, they would also cease purchasing, this is the lower absolute price threshold. Therefore, the upper and lower absolute price thresholds form the range of prices a specific consumer would consider buying (Monroe et al., 2015). Accumulating purchasers for a specific product would generate a distribution of prices that are intolerable as they are seen to be too low and another distribution of prices that are intolerable because they are remarked to be too high. If price-market segments exist, each group of buyers is categorised as having fluctuating price elasticities at these specific low and high price thresholds (Monroe et al., 2015; Pauwels et al., 2007). This reasoning reveals the importance of proving practically the existence of these specific segments for the same products at the same retail chain, and the necessity for managers to base their price decisions on demand-based pricing. Some authors (Srinivasan et al., 2008; Calabrese and De Francesco, 2014) affirmed that demand-based pricing is associated with higher retailer and service providers gross margins, enhanced the understanding of variation in the patterns of price adjustment. In addition, some consumers are willing to pay premium prices if these are consistent with their perceived value about a service or a retailer (Calabrese and De Francesco, 2014), but how much are they willing to pay? This question needs further research.

According to the previous ideas the research question formulated in this study is:

RQ1. Can be demonstrated empirically if considering the local demand at setting prices would generate larger earnings, even for a small retail chain?

3. Methodology
To carry out the study, the authors have opted for the direct method of acceptable prices setting as being the most appropriate to set the price (Rosa-Díaz, Rondan-Cataluña and Diez-de Castro, 2013; Dodds, Monroe and Grewal, 1991). This is based on two fundamental proposals:

1. Above a certain price, the consumer has the impression that the product is too expensive.
2. Below a certain price, the consumer has the impression that the quality of the product is bad.

Having proposed these fundamental principles, the method enables finding the price range which they delineate. To do so, it is necessary to formulate the following questions:

- Below what level of prices, among those which are indicated, do you consider that the product has an unacceptably low quality? Therefore, what is the minimum price level that you would be willing to pay for this product?
- Above what level of prices, among those which are indicated, do you consider that the product is excessively expensive? Therefore, what is the minimum price level that you would be willing to pay for this product?

These questions were asked to 350 interviewees in each of the three points of sale. Therefore, a total of 1,050 interviewees were collected related to the three products analysed. Data collection took place between the months of October 2015 and January 2016. These were personal surveys of customers inside the shops in question. It is a non-random sampling method aimed at the customers who wished to answer the questionnaire. The 56.29 per cent of the sample were males, 34.19 per cent respondents were under 30 years old, 54 per cent between 30 and 60 years old and 11.81 per cent over 60.
For each level of price, the number of interviewees who set it as the minimum acceptable level and maximum acceptable level was calculated. Later, the accumulated percentage of the possible buyers compared to the minimum price was determined, and, contrariwise, the accumulated percentages of the possible non-buyers regarding the maximum price. The difference between these accumulated percentages is the percentage of possible buyers. In addition, the difference between the two levels is the maximum difference and is considered as the most appropriate price level.

The firm in our study is a small family company with three points of sale of sport products in the province of Seville (Spain). One of them is in a small town, a rural zone with a low population density and an average net income declared in 2016 of €15,527 per person (Shop 2), and the other two in two cities, high-density urban zones. One is in a factory outlet store (Shop 1) the average net income declared in this city in 2016 was €18,255 per person, and the other in a commercial/tourist area of the main town (Shop 3) the average net income declared in this main city in 2016 was €21,524 per person, according to the Statistic Institute of Andalusia. As well as these characteristics, information about the sizes of the shops was analysed, which are from 900 m$^2$ – the largest – to 250 m$^2$ – the smallest. The sales volume of this firm during the last fiscal year was approximately 2 million euros.

For the study, three products were analysed: a tracksuit, a football kit and running shoes. They are of a standard quality and there is a lot of competition from related products. In addition, the authors collected information disclosed by the firm about sales for the three products in the three shops at three price levels in three weeks in February 2016.

### 4. Results

Now, the results obtained in the surveys carried out in the shops are presented. There were 1,050 surveys, 350 for each shop. The minimum prices which the interviewees consider an acceptable price for the football kit are shown in Table I.

The minimum price ranges from €3 to €13 and the average price is close to €7. The Table I also reflects the frequency of the different prices. With these results, the acceptation or the rejection of the different prices for this product can be obtained.

Table II indicates the maximum price which the interviewees would be willing to pay for the product. The frequency, the percentage of the frequency with respect to the total and the interviewees’ acceptation or rejection of each price is also noted.

Regarding gender, significant differences for men and women in the average maximum and minimum prices suggested by the interviewees are not found. The data obtained via the

<table>
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<tr>
<th>Minimum prices</th>
<th>Freq.</th>
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</thead>
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<tr>
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<td>13.2</td>
<td>80.5</td>
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<td>17.9</td>
<td>98.4</td>
<td>1.6</td>
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Table I. Minimum price for the football kit
calculations comparing the interviewees’ figures of minimum and maximum prices according to the shop are in Table III.

The descriptive statistics by shops for price minimum and maximum are also presented in Table III. After carrying out an ANOVA to verify the equality of measures for the three shops, there are significant differences between the average maximum and minimum prices suggested by the customers of the different shops. This result is corroborated by doing a non-parametric verification. The minimum price suggested by the customers of the Shop 2 is significantly lower than in the other two. In addition, with respect to the maximum price, the interviewees of each shop suggest different figures, the highest being for the Shop 3 – an average of almost €16 compared to the €11.69 suggested by the interviewees in the Shop 1.

The importance of age when suggesting maximum and minimum prices is also studied. To do so, the respondents have been grouped as follows: under 30 years old, between 30 and 60 years old and over 60 years old (Table IV).
After doing an ANOVA to verify the equality of measures for the three age groups, there are significant differences between the average maximum and minimum prices suggested by customers of different ages. This result is corroborated by carrying out a non-parametric verification. The minimum price suggested by customers under 30 years old is significantly lower than that of the group of over 60 years old. With respect to the maximum price, the respondents of each age group suggest different maximum prices, the highest being those over 60 at an average €16.85, compared to the €12.57 suggested by the interviewees under 30.

Now, the results obtained for tracksuits are presented. First, the minimum prices including their frequency, acceptation and rejection (Table V).

Next, the maximum price suggested by the 1,050 interviewees for the tracksuit is shown (Table VI).

In Table VII, the measures of both prices and their standard deviations by gender are compared.

From the $t$ test comparing measures significant statistical differences appear for men and women in both the average minimum and maximum prices suggested. This idea is confirmed by the non-parametric test.
Next, the data obtained comparing the figures of minimum and maximum prices of those interviewees by shops are reproduced (Table VIII).

After calculating an ANOVA to assess potential differences for the three shops regarding the minimum and maximum prices of tracksuit, they reflect significant differences between the average prices suggested by the customers. This result is confirmed by carrying out a non-parametric test. The same as with the football kit, the minimum price suggested by the customers of Shop 1 is significantly lower than in the other two. In addition, with respect to the maximum price, each shop’s interviewees suggest different maximum prices, the highest being those in the Shop 3 – more than €18 on average compared to the €13.41 proposed by the interviewees of the Shop 1. Having done the calculation per shop, the next step is to calculate the variation by age groups.

With the ANOVA, potential differences for the three age groups and for this product are analysed (Table IX). There are also significant differences between the average maximum and minimum prices suggested by buyers of different ages. This effect is corroborated by carrying out a non-parametric verification. The minimum prices suggested by customers under 30 years old and from 30 to 60 years old are significantly lower than those of the group of over 60 years old. And regarding the maximum price, those interviewees of each set of ages record different maximum prices, the costliest

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<td>Females</td>
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being for the over 60, with an average of €18.50 compared to the €14.79 suggested by the interviewees less than 30.

Next, the analysis for the third product – running shoes – first for the minimum prices (Table X) and then, for the maximum prices (Table XI) proposed by the interviewees is presented.

Now, the measures of both prices and their standard deviations by gender are exposed (Table XII).

Based on the t-test of comparison of mean values, statistically significant discrepancies arise for men and women both in the average minimum price and the average maximum price suggested. This idea is ratified with the non-parametric test.

In Table XIII, the data obtained are shown, comparing the minimum and maximum prices of the interviewees by shops.

After calculating an ANOVA to assess potential differences for the three shops regarding the running shoes, as with the other products there are significant differences between the average maximum and minimum prices suggested by the customers of the different establishments. This effect is reaffirmed by carrying out a non-parametric test. The minimum price suggested by the consumers of the Shop 1 is significantly lower than those in the other two. And regarding the maximum price, the interviewees of each shop suggest different prices, the highest being in the Shop 3, which has an average over €23, compared to the €18.64 proposed by the interviewees of the Shop 1. Having carried out the calculation by shops, next, the variation by age groups is computed (Table XIV).
<table>
<thead>
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<th>Table XI.</th>
<th>Maximum price for running shoes</th>
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<td><strong>Euros</strong></td>
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<th>Table XII.</th>
<th>Descriptive by gender for running shoes</th>
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*Price min (t test = 4.44; Sig = 0.000)*

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As with the other products, significant differences are shown between the average maximum and minimum prices suggested by the customers of different ages according to ANOVA results. This outcome is confirmed by a non-parametric test. The minimum price suggested by the customers under 30 years old is significantly lower than those of the other age groups. In addition, regarding the maximum price, the interviewees of each set of ages note different prices, the costliest being those over 60 with an average of \( \text{€}23.60 \), compared to the \( \text{€}19.03 \) suggested by the interviewees under 30 (Table XV).

This table shows how revenues are very different in each shop for each price level. For example, the highest revenues for tracksuits and running shoes are achieved in the mid-price level and football kit in the high-price level in Shop 1. However, the highest incomes for football kits are obtained in the mid-price level and tracksuits and running shoes in the high-price level. Nevertheless, the highest revenues are achieved for the three products in the low-price level in Shop 3.

5. Discussion
This section begins analysing the first product: the football kit. Among the minimum prices set by the interviewees, there is a high frequency at \( \text{€}10 \) (188 interviewees), achieving a great acceptance: 98.4 per cent. The maximum price which gives the greater frequency is \( \text{€}15 \). In total, 199 people consider that this is their maximum price, generating an accumulated rejection of 76.6 per cent. With the combination of these data, the acceptable price range is calculated. To do so, the greatest difference between the acceptance of the minimum price

<table>
<thead>
<tr>
<th>Shops</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shop 1</td>
<td>350</td>
<td>13.52</td>
<td>2.834</td>
</tr>
<tr>
<td>Shop 2</td>
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<tr>
<td>Shop 3</td>
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<td>15.71</td>
<td>2.059</td>
</tr>
<tr>
<td>Total</td>
<td>1,050</td>
<td>14.62</td>
<td>2.738</td>
</tr>
</tbody>
</table>

**Price min. ANOVA (F = 62.65; Sig = 0.000)**

<table>
<thead>
<tr>
<th>Shops</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
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</thead>
<tbody>
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<td>350</td>
<td>18.64</td>
<td>3.373</td>
</tr>
<tr>
<td>Shop 2</td>
<td>350</td>
<td>20.38</td>
<td>3.172</td>
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<tr>
<td>Shop 3</td>
<td>350</td>
<td>23.14</td>
<td>2.158</td>
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<tr>
<td>Total</td>
<td>1,050</td>
<td>20.72</td>
<td>3.481</td>
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</table>

**Price max. ANOVA (F = 207.16; Sig = 0.000)**

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<tbody>
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<td>&lt; 30</td>
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<td>13.30</td>
<td>2.733</td>
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<tr>
<td>30-60</td>
<td>567</td>
<td>15.07</td>
<td>2.504</td>
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<tr>
<td>&gt; 60</td>
<td>124</td>
<td>16.35</td>
<td>2.060</td>
</tr>
<tr>
<td>Total</td>
<td>1,050</td>
<td>14.62</td>
<td>2.738</td>
</tr>
</tbody>
</table>

**Price min. ANOVA (F = 86.66; Sig = 0.000)**

<table>
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<th>Mean</th>
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<tbody>
<tr>
<td>&lt; 30</td>
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<tr>
<td>Total</td>
<td>1,050</td>
<td>20.72</td>
<td>3.481</td>
</tr>
</tbody>
</table>

**Price max. ANOVA (F = 107.84; Sig = 0.000)**

| Setting acceptable prices | Table XIII. Descriptive by shop for running shoes
|---------------------------|---------------------------------------------------
| Shops                    | N  | Mean | SD  |
| Shop 1                   | 350| 13.52| 2.834|
| Shop 2                   | 350| 14.62| 2.801|
| Shop 3                   | 350| 15.71| 2.059|
| Total                    | 1,050| 14.62| 2.738|

**Price min. ANOVA (F = 62.65; Sig = 0.000)**

| Setting acceptable prices | Table XIV. Descriptive by age for running shoes
|---------------------------|---------------------------------------------------
| Age                      | N  | Mean | SD  |
| < 30                     | 359| 13.30| 2.733|
| 30-60                    | 567| 15.07| 2.504|
| > 60                     | 124| 16.35| 2.060|
| Total                    | 1,050| 14.62| 2.738|
and the rejection of the maximum price is sought, as it was aforementioned in the direct method. In this way, an acceptable price range between €8 and €12 and the most appropriate price is obtained, or that which obtains a greater acceptation, is €10.

Having delineated the acceptable price range and the price recommended for the first product, the authors analyse these prices suggested according to different variables. The first is gender. The average of the minimum prices is lower for men than for women, though not significantly. We get the same result with the maximum prices. Another of the examined variables the point of sale. Hence, according to the geographical situation of the point of sale, it can be clearly seen that the minimum and maximum prices proposed are lower in the Shop 1 than in the Shop 2, and these are lower than in the Shop 3. This is the same as with the price limits of each shop. The last variable analysed for the first product is age. These measures vary considerably. Those who give a lower value to the maximum and minimum prices are under 30 years old, and these values increase with the age.

According to these results, if 100 units of product were sold at the maximum price that customers are willing to pay in each store, store 1 would bill for 1597 euros, store 2 would bill for 1380 euros and store 3 would bill for 1169 euros. This is a total of 4146 euros. However, if the price of 10 € were set for the three shops the total bill would be 3000 euros. Therefore, considering the demand for this product in each store and adapting the price to each one will produce 38.3 per cent more incomes than fixing the same price for the three. This fact highlights the importance of fixing prices taking into account the demand of each shop, as other studies support in other contexts (Kimes and Wirtz, 2002).

Analysing the surveys regarding the tracksuit, the most frequent price is 10 € (245 interviewees) and this value achieves a 79.7 per cent acceptation. The same analysis is carried out with the maximum price. The highest frequency is €15, although in this case the acceptation is 46.1 per cent. The acceptable price range is calculated, seeking the greatest difference between the acceptance of the minimum price and the rejection of the maximum price. An acceptable price range between €10 and €14 is obtained, and the recommended or optimum price is €12.

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<table>
<thead>
<tr>
<th>Products</th>
<th>Weekly sales shop 1 (units)</th>
<th>Revenues shop 1 (€)</th>
<th>Weekly sales shop 2 (units)</th>
<th>Revenues shop 2 (€)</th>
<th>Weekly sales shop 3 (units)</th>
<th>Revenues shop 3 (€)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st week</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Football kit (€7)</td>
<td>38</td>
<td>266</td>
<td>6</td>
<td>42</td>
<td>106</td>
<td>742</td>
</tr>
<tr>
<td>Tracksuit (€10)</td>
<td>47</td>
<td>470</td>
<td>15</td>
<td>150</td>
<td>129</td>
<td>1,290</td>
</tr>
<tr>
<td>Running shoes (€10)</td>
<td>47</td>
<td>470</td>
<td>8</td>
<td>80</td>
<td>103</td>
<td>1,030</td>
</tr>
<tr>
<td>2nd week</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Football kit (€15)</td>
<td>18</td>
<td>270</td>
<td>17</td>
<td>255</td>
<td>43</td>
<td>645</td>
</tr>
<tr>
<td>Tracksuit (€16)</td>
<td>36</td>
<td>576</td>
<td>22</td>
<td>352</td>
<td>66</td>
<td>1,056</td>
</tr>
<tr>
<td>Running shoes (€18)</td>
<td>41</td>
<td>738</td>
<td>11</td>
<td>198</td>
<td>49</td>
<td>882</td>
</tr>
<tr>
<td>3rd week</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Football kit (€20)</td>
<td>14</td>
<td>280</td>
<td>6</td>
<td>120</td>
<td>8</td>
<td>160</td>
</tr>
<tr>
<td>Tracksuit (€22)</td>
<td>25</td>
<td>550</td>
<td>18</td>
<td>396</td>
<td>7</td>
<td>154</td>
</tr>
<tr>
<td>Running shoes (€25)</td>
<td>25</td>
<td>625</td>
<td>11</td>
<td>275</td>
<td>7</td>
<td>175</td>
</tr>
</tbody>
</table>

Table XV. Sales and revenues

Note: The highest revenues for each shop and product are in italic.
Next, the price averages according to the interviewee’s gender are examined. For men, the minimum price is €9.34 and for women €8.70. Therefore, men have a price reference significantly greater than women. The same occurs with the maximum price: for men, it is €16 and for women €15.20. Later, the suggested averages of prices according to the different points of sale are analysed. The same thing happens to the tracksuits and the kits: the average prices are lower among the customers of the Shop 1 than among those of the Shop 2, and all these are lower than those of the Shop 3. This occurs with both the minimum price and the maximum price. With regards to age ranges, both in the minimum price and the maximum price, the higher age the higher prices. The average minimum price is €8.82 and the maximum €14.79 for under-30s. For those of age between 30 and 60 years old, the minimum is €8.96 and the maximum €15.77. Finally, those over-60s have the highest maximum and minimum prices €10.22 and €18.50, respectively. According to ANOVA, it is confirmed that these differences are statistically significant and higher in the range of over-60s with regards to the other age groups.

Following the same reasoning for this product than for the football kit, considering the demand for the tracksuit in each store and adapting the price to each one will produce 30.39 per cent more incomes than fixing the same price for the three shops.

Finally, the third product: running shoes is analysed. In reference to the minimum price, 272 interviewees consider €15 to be a good minimum price, with an acceptation of 64.3 per cent. The most accepted maximum price is €20 for 177 interviewees, with an acceptation percentage of 50 per cent. The acceptable price range is from €16 to €19 and the recommendable or optimum price is €18.

In this product, again there are significant differences between the averages of the suggested prices. For men, the minimum price is €14.99 and the maximum €20.99. For women, these are €14.19 and €20.36, respectively. The t test shows that this is a statistically significant difference. In reference to the points of sale, the same happens as to the previous cases, the lowest minimum and maximum prices are in the Shop 1: €13.52 and €18.64, respectively. The second lowest are in the Shop 2 – €19.62 and €20.38 – and as has happened in the previous cases the shop which obtains the highest average prices is the 3: €15.71 for the minimum price and €23.19 for the maximum price. From the ANOVA, the given results provide significant differences both for the minimum and for the maximum price. Last, the results differentiated by the age ranges are analysed. The same happens with the running shoes as with the kits and the tracksuits: as the age increases so do the averages of the interviewees’ maximum and minimum prices. In the under 30 years old range, the average minimum is €13.30 and the average maximum is €19.03. For the 30 to 60 years old range, these are €15.07 and €21.16. For the over 60 years old, they are €16.35 and €23.60, respectively. These differences can be considered significant according to the ANOVA for all the age groups in both the minimum and the maximum prices.

Following the same reasoning for this product than for the previous ones, considering the demand for the running shoes in each store and adapting the price to each one will produce 15.11 per cent more incomes than fixing the same price for the three shops.

All these figures show the idea that pricing policies need to be appropriately malleable for price optimisation in reality (Watson et al., 2015). Furthermore, managers who want to create price perception should develop a positive lasting first impression of their stores, especially in shops were price sensitivity is higher (as Shop 3 in our case) (Cho, 2014). In addition, recent literature indicates that dynamic messages, such as videos, create a stronger emotional connection, which consequently reduces clients’ price sensitivity (Grewal et al., 2017; Roggeveen et al., 2015). As a result, this is another tool retailers’ managers could handle to influence customers’ price sensitivity.
6. Conclusions

The foremost contribution of this article is to demonstrate empirically how considering the local demand at setting prices would generate larger earnings, even for a small retail chain. The direct method of setting acceptable prices enables us to set the prices according to the demand. The best option is if these prices are above the costs. It can be noted that the prices should be set according to each shop, and a different price used in each point of sale to maximise profits and to adapt to what the typical customer of each shop is willing to pay. Despite the products being the same and the points of sale belonging to the same retail chain, the knowledge of the product, both in its technical characteristics and in knowing other offers of the competition in related products, gives rise to the minimum price suggested being lower.

On the other hand, the differences obtained in the different points of sale are significant. The conclusion drawn from this aspect is that there is not a unique acceptable price range or recommended price. Rather this depends on the location of each sales point. The point where the lower minimum and maximum suggested prices are obtained is Shop 1. Despite the fact is not the city with the lowest average incomes per person. There are several reasons for this: it is within a Factory Outlet, which has a lot of competition in the zone; it is situated in an urban area near the province capital; and it is visited by many people. Therefore, one can think that the customers who go to this establishment are more price-sensitive, and it can be deduced that they will base their shopping decision more on the price than customers who are less sensitive. The latter will tend to seek offers and discounts to make their purchase (Petrick, 2005). The closest in prices is the point of sale in self-esteem from fortunes of others.

Shop 2, a rural area of about 20,000 inhabitants around 30 kilometres from the province capital, in which the competition is lower. The citizens of this town have the lowest average income of the three places analysed. As it is further from Seville, the consumer can consider paying a little more for the product. Finally, the Shop 3 in Seville is in a tourist area and has an ample public which is made up of both tourists and residents in the city centre with the highest average incomes. This means that the consumers have a higher average purchasing power. In addition, as there is not much competition close by, the prices suggested by the customers are higher. This study confirms the result of O’Neill and Lambert (2001), they demonstrated that the greater the importance for the customer of buying cheap, the smaller the size of the acceptable price range. This determines a greater sensitivity to the price as the customer is more likely to buy in promotions.

Furthermore, some relevant conclusions regarding the buyers’ ages are found. The price is a very important factor in the purchasing decision of the product and some differences between ages exist. The differences between these three groups are very significant. The range under 30 years old is more inclined to suggest low minimum prices. Therefore, they are more sensitive to the prices of the three products. It is significant that the 30-60 years old range, usually people with a greater knowledge of the product, is inclined to seek zones with much competition where a better price can be obtained. It also tends to be the age group with more possibilities of movement, having their own car. Lastly, the people in the over 60 years old age range are less inclined to travel far to acquire the product and are also the ones who have a more stable economic capacity. These reasons are the ones that explain the results of the surveys in which this age range is the one which chooses a higher maximum and minimum price and is therefore the age group that is least price sensitive.

The foremost contribution of this study is to reveal empirically how considering the local demand at fixing prices would produce bigger incomes, more than 30 per cent in some products, even for a small retail chain. The benefits of demand-based pricing are well documented in terms of customer satisfaction and loyalty (Heo et al., 2013; Kimes and Wirtz, 2002).
Nevertheless, the studies of the effects of these pricing policies on firm incomes are scarce. Managers could improve significantly firm incomes in retailing sector adapting pricing policies typically applied in service sector.

To finish, and as a general idea of the study, the acceptable price range is not unique, each point of sale may have a different one because it depends on numerous factors: competition, the economic capacity of the nearest residents, the geographical situation of the sales point, the capacity of attracting customers, or shopping environment (Campbell and Fairhurst, 2016). In addition, in the results obtained in the surveys the acceptable intervals are relevant but not totally certain. Because of the buyers acting on impulses corresponding to their economic capacity, perception of the sales point, of the product and numerous other aspects. These impulses are difficult to forecast, so it might be considered the acceptable price range as the best way of setting the price of a new product in the market.

This direct method of setting acceptable prices enables us to set the prices according to the demand. The best option is if these prices are above the costs. It can be noted that the prices should be set according to each shop, and a different price used in each point of sale to maximise profits. In addition, to adapt to what the typical customer of each shop is willing to pay, despite the products being the same and the points of sale belonging to the same retail chain. This pricing policy might provoke dissatisfaction of consumers that can occur if they know that the prices are different in the shops, especially if they pay a higher price. Although this pricing discrimination is usual in other industries, such as accommodation, flights, etc., is not so used in small retailing chains. It would be an interesting future research to analyse customers’ perceptions of pricing discrimination in this type of retailers.

Among the limitations of this work can be highlighted the local character of the analysed chain. Furthermore, this study has been carried out with only three products of an unknown brand to avoid the brand effect. In addition, similar research could be done in other countries, or group of countries at similar levels of commercial development and to investigate if they achieve similar results. Another future research is to analyse how cultural differences influence customers’ price sensitivity.

References


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