INFLUENCE OF SENSORY STIMULI ON BRAND EXPERIENCE, BRAND EQUITY AND PURCHASE INTENTION

António C. MOREIRA¹, Nuno FORTES², Ramiro SANTIAGO³

^{1,3}University of Aveiro, DEGEIT, Portugal ²Polytechnic Institute of Coimbra, ESTGOH, Portugal E-mails: ¹amoreira@ua.pt (corresponding author); ²nuno.fortes@estgoh.ipc.pt; ³ramiro.santiago@ua.pt Received 29 November 2015; accepted 21 October 2016

Abstract. Sensory stimulation is used by various brands to induce desired behaviours among their customers. Although its effectiveness is recognised in business contexts, little research has been conducted on sensory marketing. In order to contribute to filling this gap, this study sought to build a model that explains how sensory stimulation influences intentions to purchase a brand. Brand experience and brand equity were expected to mediate this relationship. The empirical validation of the model was conducted by carrying out an online survey with a convenience sample of 302 customers of a brand of the catering industry. The data collected were processed using PLS-SEM methodology. The results reveal that sensory stimulation positively influences brand experience and brand equity, which, in turn, have a positive impact on intentions to purchase the brand in question. The relevant contributions that emerged from this study include not only bridging the aforementioned gap in the literature but also offering significant managerial implications.

Keywords: sensory marketing, sensory stimuli, brand experience, brand equity, brand purchase intention, consumer behaviour, PLS-SEM, experiential marketing.

JEL Classification: M31, M39.

Introduction

In traditional marketing, consumers are seen as rational decision makers interested in the attributes and benefits of products (Schmitt 1999). Currently, consumers want products, communication and marketing campaigns that dazzle the senses, touch the heart and stimulate the mind, matching their lifestyle and, above all, offering experiences (Krishna 2010). Stiff market competitiveness has led some firms to focus on changes, desires and needs among consumers seeking pleasurable experiences (Costa *et al.* 2012; Biswas *et al.* 2014), which has forced these companies to rethink traditional marketing models (Schmitt 1999) and given rise to new marketing paradigms that meet these consumers' needs and interests, enabling brand differentiation through experiential and sensory marketing.

Experiential marketing seeks to provide memorable and unique experiences to consumers who are seen as rational and emotional, with a particular interest in obtaining pleasurable experiences (Krishna 2010). The term "customer experience" refers to a set of interactions between customers and the products and/or services, implying consumers' involvement at different levels (i.e. rational, emotional, sensual, physical and spiritual) in which they participate on a strictly personal plane (Gentile *et al.* 2007; Krishna 2010; Pentz, Gerber 2013).

Sensorial marketing aims to strengthen the relationship between a brand and its customers at a deeper level by involving human senses (Khanna, Mishra 2012). This can be used to differentiate companies and products, motivating consumers, adding value to products and improving customer experiences (e.g. through emotions or aesthetics) (Schmitt 1999). Krishna (2012) conceptualises sensory marketing based on the difference between sensation and perception, which has consequences in terms of consumption behaviours and attitudes. From this perspective, haptics, olfaction, audition, taste and vision play an important role in sensory marketing as they can convey abstract, high-level, cognitive representations that influence brand experiences and brand equity, allowing firms to create a closer connection with consumers (Costa *et al.* 2012; Khanna, Mishra 2012). The use of different types of sensory experiences can improve the quality of customer service and, consequently, result in improvements in even the strongest brand image and recognition, in the long run (Ding, Tseng 2015; Hultén *et al.* 2009).

Sensory experiences can intensify brand experiences (Schmitt 1999; Hultén 2011). A multisensory approach (Streicher, Estes 2016) generates multiple perceptions that can influence brand personality and equity (Rajput, Dhillon 2013). As brand awareness influences how brands are chosen, it is important to analyse what are the consequences for brand experiences and brand equity when these are influenced by sensory stimuli. This study sought to analyse how sensory marketing affects brand experiences and brand equity and what impacts they have on purchase intentions towards the brand in question.

This article is divided into four sections. The first section presents the theoretical framework and a review of the literature on sensory marketing, brand experience, brand equity and brand purchase intention, as well as the research model and the main hypotheses. Section 2 presents the methodology used. Section 3 details the results, while section 4 discusses these results. Finally, conclusions are drawn from the study.

1. Theoretical framework

1.1. Sensory marketing

According to Krishna (2012), sensory marketing involves consumer senses and affects consumer perception, evaluation and behaviour. Krishna (2012) also notes that sensory marketing can be used as subconscious stimulus that defines the perception of consumers of abstract notions of the product (for example, sophistication, quality, elegance, innovation, modernity, interactivity) – the brand personality. As such, it can also be used to influence the perceived quality of an abstract attribute such as colour, taste, smell or shape (Krishna 2012) that play an important role every time consumers are before ab-

stract, high-level, of cognitive representations, as is the case of brand equity and brand experience that involve judgmental evaluations.

Human senses strongly influence how we create images and intuitively process this sensory information to make decisions. Lindstrom (2005a) states that the greater the number of activated sensory memories the stronger the connection established between brands and consumers.

According to Krishna (2012), sensory marketing involves consumers' senses and affects consumers' perceptions, evaluations and behaviours. She also notes that sensory marketing can be used as subconscious stimuli that define customers' perceptions of abstract notions about the product (e.g. sophistication, quality, elegance, innovation, modernity and interactivity) – namely, the brand personality. As such, it can also be used to influence the perceived quality of abstract attributes such as colour, taste, smell or shape (Krishna 2012), which play an important role every time consumers encounter abstract, high-level and cognitive representations. This is the case with brand equity and brand experiences that involve judgmental evaluations.

Sensory marketing seeks to strengthen the relationship between brands and consumers by involving human senses through the use of sensory strategies (Khanna, Mishra 2012), which have an influential role in buying processes (Jamaluddin *et al.* 2013). Multisensory brand experiences focus on differentiating, distinguishing and positioning brands in the human mind (Foster, McLelland 2015; Hultén 2011). Therefore, they propose that marketers need to use an interplay of atmospheric, auditory, visual, taste and tactile sensations.

According to Lindstrom (2005a, 2005b), using sensory appeals stimulates consumer interest, increases the momentum behind buying behaviours and allows emotional reactions to dominate consumers' rational thinking. This strategy also affects perceptions of product quality and brand equity.

Yoon and Park (2012) conducted a pre-test of five groups representing a specific sensory appeal (i.e. visual, olfactory, palate, tactile and auditory) associated with five different product brands. They conclude that self-referencing and positive affect influence the relationship between sensory appeal preferences and attitudes towards brands.

1.2. Brand experience

Pine II and Gilmore (1998) state that a successful experience is the one customers feel as unique and memorable, the one they would like to repeat and maintain over time and still would enthusiastically promote. Dolbec and Chebat (2013) report that positive experiences stimulate the senses and the user is linked through emotions, cognition and bodily experiences.

When consumers make rational decisions, they are influenced or guided by emotions associated with previous consumption experiences they would like to repeat (Schmitt 1999). Emotions and senses have an important role in the differentiation and provision of better experiences because emotions are mental states of readiness arising from

appraisals of events that allow individuals to give meaning to brands. Palmer (2010) argues that the way customers perceive experiences is influenced by the contexts in which services are consumed. This has consequences for how customers internalise these experiences, as well as how they understand brands and perceive service quality assurances (Morrison, Crane 2007; Palmer 2010; Sahin *et al.* 2011).

Pine II and Gilmore (1998) state that a successful experience is one that customers feel is unique and memorable – the one they would like to repeat and maintain over time and would enthusiastically promote to others. Dolbec and Chebat (2013) report that positive experiences stimulate the senses and that users are linked to brands through emotions, cognition and bodily experiences.

Brakus *et al.* (2009: 53) conceptualise "brand experience[s] as subjective, internal consumer responses (sensations, feelings and cognitions) and behavioural responses evoked by brand-related stimuli that are part of a brand's design and identity, packaging, communications and environments". They state that brand experiences can be divided into four dimensions: sensory, emotional, intellectual and behavioural. The sensory subdimensions of brand experiences are focused on consumers' visual, auditory, olfactive, gustative and tactile senses. For example, colours, shapes, types and designs generally result in sensory experiences, which may result in an affective or intellectual experience. Similarly, the slogans, mascots and characters of brands may appeal to creative thinking and involve emotions or stimulate actions (Brakus *et al.* 2009).

1.3. Human senses and brand experiences

Human senses are vital to everyday life. When stimulated, they trigger experiences that can – through an image, texture or written message – appeal to the senses or create a disruption, sound, taste, gesture or event, namely, anything that can appeal to human senses or surprise individuals pleasantly (Schmitt 1999). Multisensory brand experiences support the creation of individual value and allow consumers to react to companies' initiatives. This supports customers' purchase and consumption processes through the involvement of the five senses and the generation of customer value, experiences and brand image (Hultén 2011).

Human senses affect consumer awareness and experiences in buying processes. This may result in better brand experiences and higher perceived quality among consumers (Hultén 2011; Costa *et al.* 2012; Khanna, Mishra 2012; Maymand *et al.* 2012; Jamaluddin *et al.* 2013). When consumers search for, buy and consume brands, they are exposed to various specific stimuli related to brands, such as colours, shapes, product types, background design elements, slogans, mascots and characters (Brakus *et al.* 2009). These stimuli appear as part of brand design and identity (e.g. name, logo and signage), packaging and marketing communication (e.g. advertisements, brochures and websites) and the environments in which brands are marketed or sold (e.g. shops and events) (Brakus *et al.* 2009).

The senses can thus be used to intensify consumers' reactions and to provide consumer experiences (Costa et al. 2012). By exposing customers to all these stimuli,

these senses lead to better brand experiences (Schmitt 1999; Hultén 2011), enriching these by consolidating brand personality, interest, preference and loyalty (Brakus *et al.* 2009; Krishna 2010; Maymand *et al.* 2012). As such, the present study proposed the following hypothesis:

H1: Sensory stimuli have a positive impact on brand experiences.

1.4. Brand equity

Building a strong brand is essential to differentiating brands from their main competitors (Yoo *et al.* 2000; Pappu *et al.* 2005; Kumar *et al.* 2013) and ensuring competitive advantages (Pappu *et al.* 2005).

According to Aaker (1991), brands provide value to customers by intensifying their efforts to interpret and process information and their feeling of trust during purchase decision making. He defines brand equity as a set of assets and liabilities linked to brands that can create value for both customers and companies.

Measuring brand equity is not easy as brands may be associated with products, services, institutions, countries or tourism destinations (Pappu *et al.* 2005). The three dimensions proposed by Yoo *et al.* (2000) – perceived quality, brand loyalty and brand awareness – have been widely accepted (Çifci *et al.* 2016).

1.5. Sensory stimuli and brand equity

Several studies have concluded that sensory stimuli have an impact on consumer behaviour (Hultén 2011; Rodrigues *et al.* 2011; Costa *et al.* 2012; Krishna 2012). Sensory marketing means persuading consumers to perceive a brand's unique and unmistakable value, giving them memorable experiences and encouraging them to repeat and disseminate descriptions of their experiences (Costa *et al.* 2012). Sensory marketing positively changes perceptions of brands when the stimuli are consistent with other brand elements (Khanna, Mishra 2012).

Human senses are linked to emotions and memory that influence behaviour (Krishna 2012). They can reinforce positive feelings, following an experiential rationale, generating specific value for individuals and, in particular, creating a brand image (Hultén 2011). Sensory variety and cognitive consistency induce associations with brands, which allow the memory to relive sensory experiences (Chang, Chieng 2006). Given this link to memory, marketers can create brand awareness and brand associations through sense stimuli. By appealing to the five senses, brands create strong memories in consumers' minds (Khanna, Mishra 2012). However, contrary to what Costa *et al.* (2012) found, Khanna and Mishra (2012) did not confirm a relationship between sensory stimuli and brand loyalty.

A multisensory approach can generate subconscious triggers that control consumers' perceptions and associate products with conceptual ideas. These generate different perceptions, such as superiority, quality, elegance, innovation, modernity and interactivity, which shape brand personality (Rajput, Dhillon 2013).

In short, sensory marketing seeks to generate customer loyalty through a process of differentiation in the provision of services, which often goes beyond colours that captivate consumers' attention, flavours that provide tranquillity, sounds that stimulate stays in certain ambiences and flavours that surprise the palate (Costa *et al.* 2012). Therefore, based on Esch *et al.* (2012), Khanna and Mishra (2012), and Rajput and Dhillon's (2012) findings, the present study proposed the following hypothesis:

H2: Sensory stimuli have a positive impact on brand equity.

1.6. Brand experiences and brand equity

Esch *et al.* (2012) conclude that customers perceive declarative information and experience emotions differently when evaluating brands as "strong" brands versus unfamiliar brands. The significance of the five senses in the creation of multisensory experience of brands is thus related to how consumers value and experience brands and their images (Hultén 2011). This has consequences for building brands and their identity, loyalty base, and image (Hultén 2011).

As proposed by Yoo *et al.* (2000), perceived quality, brand loyalty and brand awareness are the main dimensions of brand equity. Brand experiences affect brand loyalty (Brakus *et al.* 2009; Iglesias *et al.* 2011; Sahin *et al.* 2011). However, experiences perceived as superior by consumers determine their true loyalty if an affective commitment to brands among their customers is also developed (Iglesias *et al.* 2011).

The practice of sensory marketing drives sales and enhances reputation and brand image (Rajput, Dhillon 2013), which create lasting memories (Keller 1993). Brand associations are enhanced when they are derived from brand experiences and exposure to brand communications (Chang, Chieng 2006). These associations are driven by sensory pleasure, variety and/or cognitive stimulation (Keller 1993) – all components of brand experiences (Dolbec, Chebat 2013). Finally, as brand experiences increase consumers' trust and willingness to use a brand, this has important consequences for perceived quality (Dolbec, Chebat 2013) because brand leaders behave differently than brand laggards do (Sheng, Teo 2012; Lin 2015).

Experiences related to brands tend to become part of individuals' long-term memory in the form of brand associations. As such, the following hypothesis was formulated:

H3: Brand experiences have a positive impact on brand equity.

1.7. Brand purchase intentions

Purchase intentions have been studied to understand the reasons why customers purchase particular brands (Shah *et al.* 2011). These intentions can be defined as the effort that consumers are willing to make to buy products or brands. The main factors motivating purchase intentions can be attitudes, evaluations and perceptions of brands. For instance, the perceived quality of a brand can improve consumers' evaluations (Wang, Li 2012; Allameh *et al.* 2015).

1.8. Brand experience and purchase intentions

Chen and Chang (2008) found that brand equity and purchase intentions have a positive relationship. However, this relationship is not significant for consumers with low switching costs, which enhances the importance of brand experiences and sensory stimuli.

Zarantonello and Schmitt (2010) conclude that the relationship between attitudes towards brands and purchase intentions is stronger for holistic consumers who are interested in all kinds of experiences (i.e. sensory, emotional, intellectual and behavioural) and weaker for utilitarian consumers with little interest in experiences. The following hypothesis was thus formulated:

H4: Brand experiences have a positive impact on brand purchase intentions.

1.9. Brand equity and purchase intentions

Brand equity can be considered a reason or motivation to buy certain brands, as the higher the brand equity the stronger consumers' preferences and purchase intentions (Jani, Han 2014; Pappu *et al.* 2005). Morrison and Crane (2007) argue that marketers need to create sense-based, emotional holistic experiences that deliver the emotional fulfilment that can lead to brand differentiation, customer loyalty and evangelical promotion of brands.

Brand awareness influences attitudes towards brands, which in turn stimulate brand choices (Wang, Li 2012). Keller (1993) argues that attributes, whether related or not to the products of a specific brand, strongly contribute to the formation of brand associations, which may directly affect consumers' purchase or consumption processes. Brand loyalty has been identified as essential for generating repeat purchases (Wang, Li 2012; Jani, Han 2014). As such, the following hypothesis was formulated:

H5: Brand equity has a positive impact on brand purchase intentions.

The proposed research model is presented in Figure 1.

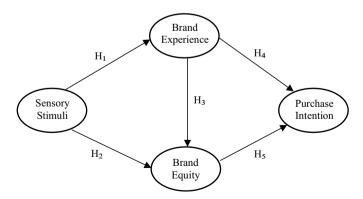


Fig. 1. Research model

2. Methodology

This empirical study was based on a non-random convenience sample consisting of students from a public university who are regular customers of the selected brand. This sampling technique was chosen for its ease of contact and speed and low cost of data collection.

The data were collected using a questionnaire consisting of previously validated scales adapted from other research: Nadiri and Gunay's (2013) work on sensory stimuli, Brakus *et al.*'s (2009) study of brand experiences, Yoo and Donthu's (2001) work on brand equity and Bruhn *et al.*'s (2012) study of purchase intentions. Sensory stimuli (SNS_STI) and purchase intentions (PRCH_INT) were measured with unidimensional scales. Brand experiences (BRND_EXP) were measured with a multidimensional scale comprised of behavioural (BEHV_EXP), affective (AFFCT_EXP), intellectual (INT_EXP) and sensory (SNS_EXP) dimensions. Brand equity (BRND_EQ) was also measured with a multidimensional scale consisting of brand awareness and/or associations (AW/ASS), brand loyalty (LOYAL) and perceived brand quality (PRC_QUAL) dimensions. All constructs were measured based on a seven-point Likert-type scale (i.e. "strongly disagree" to "strongly agree").

The questionnaire was subjected to a pre-test conducted on a convenience sample of 30 people, in order to facilitate respondents' understanding. The final version of the questionnaire was made available online in a Google Drive platform for three weeks, and respondents were asked to fill the questionnaire out in emails and social networks.

The target population was composed of clients of a famous 27-year-old pizzeria in the Centre Region of Portugal. This pizzeria offers a wide variety of pastas, salads, pizzas and crepes at affordable prices, whetting customers' appetites not only through tastes and aromas but also visual images and uniquely attractive offers. Its logo and colours are used in all means of communication (i.e. spatial, virtual and physical). The space is decorated with sculptures, paintings and other pieces of contemporary art that add up to a bold, unusual design. The total stimuli of a meal provides gustatory experiences delivered by the good presentation, aroma, flavour and texture of the food, within a unique environment that stimulates the five senses.

3. Results

The sample collected, as described in Table 1, was composed of 302 individuals, mostly females (69.9%) up to 24 years old (57.9%) with a bachelor's degree (54.7%). According to Marcoulides and Saunders's (2006), the sample size is acceptable.

The statistical data analyses were carried out by applying the partial least squares method of structural equation modelling using SmartPLS 3.0 software. This methodology was selected because it is robust when working with non-normal data and when research is at an early stage of theoretical development, testing and validating an exploratory model (Chin 2010).

Table 1. Sample characterisation

		N	%
Gender	Female	211	69.9
	Male	91	30.1
Age	Up to 24 years	175	57.9
	25 to 34 years	85	28.1
	35 to 44 years	26	8.6
	45 to 54 years	14	4.6
	55 and more years	2	0.7
Education	Secondary education	88	29.1
	Bachelor's degree	165	54.7
	Master's degree or higher	49	16.2

The model was evaluated in terms of reliability, convergent validity and discriminant validity. The results support the reliability of the measurement indicators used. All loadings are statistically significant at the 1% level. The factor loadings are larger than the cross-loadings, and, with the exception of three items, all items have higher loadings than the minimum recommended threshold of 0.7 (Götz *et al.* 2010). Table 2 provides the average variance extracted (AVE), the composite reliability (CR) and the correlations of each latent variable. The CR values are higher than the recommended minimum of 0.6 (Götz *et al.* 2010), indicating that all constructs have adequate internal consistency. Moreover, the AVE of each construct is greater than the expected minimum threshold of 0.5 (Götz *et al.* 2010), which ensures its convergent validity. Finally, discriminant validity was confirmed for each construct, as the square root of the AVE is greater than the absolute value of all correlations with other constructs.

The structural model shown in Figure 2 was evaluated by (a) the sign, magnitude and statistical significance of the parameters of structural relationships, (b) the explained variance (R²) of the endogenous latent variables and (c) the size effect (f²) on each endogenous latent variable (Götz *et al.* 2010). All structural relationships have parameters with signs compatible (i.e. positive) with the assumptions made in the research model, ranging between 0.085 and 0.639. Moreover, with the exception of the relationship between brand experiences and purchase intentions, all other relationships are statistically significant at a 0.1% level, which confirmed all the hypotheses, except H4.

The results indicate that 49.9% of variations in purchase intentions is explained by variations in brand equity and brand experience, with the former having the strongest impact. In addition, variations in brand equity are explained by 69.0% of variations of brand experience and sensory stimuli, the latter being the most influential. Finally, 52.0% of variations in brand experiences are explained by variations in sensory stimuli. According to Hair *et al.* (2016), R² values for endogenous latent variables can be described as moderate.

Table 2. Average variance extracted,	composite reliability and correlations				
among latent variables					

	AVE CD				Co	orrelatio	ons				
	AVE	CR	1	2	3	4	5	6	7	8	9
1. SNS_STI	0.518	0.896	0.720								
2. AW/ASS	0.559	0.863	0.691	0.748							
3. LOYAL	0.737	0.894	0.637	0.653	0.859						
4. PRC_QUAL	0.703	0.825	0.711	0.634	0.625	0.838					
5. BEHV_EXP	0.684	0.866	0.559	0.549	0.594	0.493	0.827				
6. AFFCT_EXP	0.660	0.853	0.691	0.672	0.687	0.595	0.754	0.813			
7. INT_EXP	0.659	0.852	0.621	0.621	0.605	0.520	0.741	0.797	0.812		
8. SNS_EXP	0.694	0.871	0.705	0.622	0.602	0.584	0.686	0.759	0.748	0.833	
9. PRCH_INT	0.910	0.968	0.693	0.657	0.558	0.622	0.439	0.544	0.497	0.578	0.954

Note: values of the diagonal are the square root of AVE.

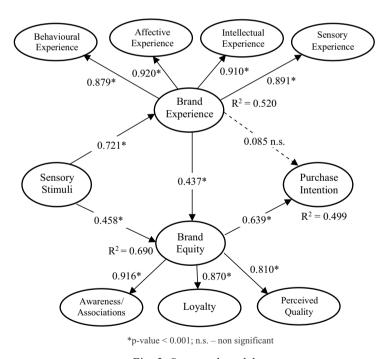


Fig. 2. Structural model

Changes in R^2 can be assessed through the effect size (f^2) to see whether particular independent latent variables have a substantive impact on dependent latent variables (Götz *et al.* 2010). Values of 0.02, 0.15, and 0.35 for f^2 can be viewed as indicating a small, medium or large effect, respectively, of predictor latent variables on particular

endogenous latent variables (Chin 2010; Götz et al. 2010). The results presented in Table 3 show that sensory stimuli have a strong effect on brand experiences and a medium effect on brand equity. In addition, brand equity has a medium significant effect on purchase intentions. Finally, brand experiences have a medium significant effect on brand equity but no significant effect on purchase intentions.

Table 3. Effect size (f^2)

Path	f ²	p-values
BRND_EQ→PRCH_INT	0.33	0.00
BRND_EXP→BRND_EQ	0.30	0.00
BRND_EXP→PRCH_INT	0.01	0.57
SNS_STI→BRND_EQ	0.33	0.00
SNS_STI→BRND_EXP	1.08	0.00

Table 4 shows the direct, indirect and total effects of the variable analyses. All three effects are statistically significant at the 0.01% level, except the effect of brand experiences on purchase intentions, as stated previously. The importance of sensory stimuli in this framework is shown in their significant direct effects on brand experiences (β = 0.721) and brand equity (β = 0.458). Brand equity exerts the strongest direct effect on purchase intentions (β = 0.639). The strongest indirect effect on purchase intentions, the strongest is from brand equity (β = 0.639), followed by sensory stimuli (β = 0.555). The total effects on brand equity are headed by sensory stimuli (β = 0.773).

Table 4. Direct, indirect and total effects

	Direct effects	Indirect effects	Total effects
		Loadings	
BRND_EQ→PRCH_INT	0.639 *		0.639 *
BRND_EXP→BRND_EQ	0.437 *		0.437 *
BRND_EXP→PRCH_INT	0.085 n.s.	0.279 *	0.364 *
SNS_STI→BRND_EQ	0.458 *	0.315 *	0.773 *
SNS_STI→BRND_EXP	0.721 *		0.721 *
SNS_STI→PRCH_INT		0.555 *	0.555 *

Note: * p-value < 0.001; n.s. – non significant.

4. Discussion of results

Even with the increased importance given to the integrated use of the five senses, sensory marketing is still underdeveloped and underresearched. This study provides support for the conclusion that sensory stimuli influence brand experiences and brand value, as well as pre-behavioural variables that come under this influence, namely, purchase in-

tentions. The results confirm most of the hypotheses presented in the conceptual model. As argued by Schmitt (1999), Hultén (2011), Costa *et al.* (2012) and Maymand *et al.* (2012), a significant positive relationship exists between sensory stimuli and brand experiences ($\beta = 0.721$; p-value < 0.001). The study shows that the selected brand positively affects customers' senses, making their stay a memorable, remarkable experience through the decor, services, products and environment provided by the brand.

As competition has increased, restaurant owners need to be aware of the importance of the multisensory experiences provided by involving all five senses to generate memorable experiences. In this context, the specificities of aromas and scents need to be in tune with the decor, lights and easy-listening music to create a relaxing atmosphere, which is complemented by the services and menus provided, as well as the room temperature. All of these help to capitalise on the symbolic image managers want to deliver.

The relationship between sensory stimuli and brand equity (β = 0.458) is significant and consistent with Chang and Chieng (2006), Costa *et al.* (2012) and Rajput and Dhillon's (2013) findings. Within this framework, managers can create awareness and favourable associations through sensory stimulation around brands (Chang, Chieng 2006), improving perceptions of quality (Rajput, Dhillon 2013) and increasing loyalty (Costa *et al.* 2012).

This means that genuinely unforgettable experiences create unique opportunities for brands to involve customers individually in the process of creating and delivering added-value services. Since emotional attachments created by sensory-based services give customers a sense of unique perceived quality, sensory marketing needs to habitually involve customers as individuals in the process of developing and providing unique services. The results confirm that the relationship between brand experiences and brand equity is significant ($\beta = 0.437$), which means that, by improving the experiences offered to their clients, brands can develop consumers' awareness, associations, perceptions of quality and loyalty. These findings are consistent with studies by Brakus *et al.* (2009), Hultén (2011), Iglesias *et al.* (2011) and Sahin *et al.* (2011). In this context, the use of sensory marketing practices creates memorable and sensory experiences that support customers' involvement with the services provided. Therefore, service providers need to generate a sense of continuous involvement by using the five senses to generate experiences and brand loyalty engagement.

Our study also supports the finding of a significant correlation between brand equity and purchase intentions ($\beta = 0.639$). This confirms that customers with a strong connection to a brand, who perceive the associated service quality as unique and go through unforgettable holistic experiences, normally generate an emotional attachment to the brand and want to repeat their experiences. Thus, the higher the brand equity is the stronger consumers' motivation, preference and purchasing intentions are for the relevant brand, which corroborates Pappu *et al.*'s (2005) results.

Unlike Zarantonello and Schmitt (2010), brand experiences do not have a direct significant influence on purchase intentions. This result could be explained by the sample composed of young individuals with low purchasing power. In this respect, two alter-

native explanations are possible. First, as the customers sampled belong to a segment with tight budgets, they may have developed more rational decision-making processes, and, regardless of unique sensory-based experiences, their tight budget may prevent them from enjoying repeated experiences with the service brand in question. Second, as switching costs are extremely low, the segment analysed may be looking for new alternative experiences despite their past sensory-based experiences. Thus, although good brand experiences are necessary to support brand equity, managers who want to strengthen customers' purchase intentions through brand experiences need to focus on building brand equity as well, in order to strengthen their clients' purchase intentions.

Conclusions

This study has important implications for both the academic and business world. Academically, the research contributes to bridging the existing gap of almost no studies of sensory stimulation. The proposed research model has the merit of clarifying the connection between sensory stimuli and buying behaviours using brand experiences and brand equity as mediators. In business terms, the study shows that catering brands can develop an extremely significant advantage by using a multisensory stimulation approach, due to the positive effects it has on their customers' brand experiences, brand equity and purchase intentions.

In business terms, the study shows that catering brands have a huge advantage in using a multisensory stimulation approach, due to the positive effects it has on their customers' brand experience, brand equity and purchase intention. According to the finding of this study, this means that proper multisensory stimulation produces an increase on customers' brand experience and on brand equity, which in turns reinforce purchase intention. Being behavioural intention a strong predictor of behaviour, we can expect that sensory stimulation improves the market performance of catering brands.

As an exploratory study in an area with little presence in the literature, this model has the potential to be further developed and improved based on the results obtained. The findings presented above only provide a static "picture" at a given time, i.e., their validity may change because of ongoing social changes.

The main limitation of this study is that it was applied to a convenience sample. Thus, the results cannot be generalised to the entire population of consumers.

To increase knowledge about the influence of sensory stimulation on purchasing behaviours, more empirical research is needed in more diversified contexts. In order to reanalyse the brand experience-brand intention relationship, future studies need to use more heterogeneous samples in terms of age and occupation and analyse the moderating effects of switching costs on the relevant constructs. Added value could be gained by applying the model in other industries such as the tourism or air travel industries to understand how the uniqueness of services may influence purchase behaviours and intentions, given that differences necessarily exist between products and services. For example, it could prove useful to understand how more sensory-based services associated with tourism activities differ from less sensory-based products such as air travel products.

As the creation of emotional brand experiences is important, further research is needed to understand how firms involve customers in pre- and post-purchase stages and how these differ. Although sensory marketing is extremely important to creating unique brand experiences, additional value could be gained from understanding how marketing promotion affects the relationship between brand experiences and repeated purchase behaviours and between brand equity and repeated buying behaviours. Finally, future lines of research could include qualitative data that can provide a deeper understanding of the impact of sensory stimuli on purchase behaviours.

References

Aaker, D. A. 1991. Managing brand equity. New York, NY: The Free Press.

Allameh, S.; Pool, J.; Jaberi, A.; Salehzadeh, R.; Asadi, H. 2015. Factors influencing sport tourists' revisit intentions, *Asia Pacific Journal of Marketing and Logistics* 27(2): 191–207. https://doi.org/10.1108/APJML-12-2013-0159

Biswas, D.; Labrecque, L.; Lehmann, D.; Markos, E. 2014. Making choices while smelling, tasting, and listening: the role of sensory (dis)similarity when sequentially sampling products, *Journal of Marketing* 78(1): 112–126. https://doi.org/10.1509/jm.12.0325

Brakus, J.; Schmitt, B.; Zarantonello, L. 2009. Brand experience: what is it? How is it measured? Does it affect loyalty?, *Journal of Marketing* 73(3): 52–68. https://doi.org/10.1509/jmkg.73.3.52

Bruhn, M.; Schoenmueller, V.; Schäfer, D. 2012. Are social media replacing traditional media in terms of brand equity creation?, *Management Research Review* 35(9): 770–790. https://doi.org/10.1108/01409171211255948

Chang, P.-L.; Chieng, M.-H. 2006. Building consumer-brand relationship: a cross-cultural experiential view, *Psychology and Marketing* 23(11): 927–959. https://doi.org/10.1002/mar.20140

Chen, C.-F.; Chang, Y.-Y. 2008. Airline brand equity, brand prference, and purchase intentions – the moderating effects of switching costs, *Journal of Air Transport Management* 14(1):40–42. https://doi.org/10.1016/j.jairtraman.2007.11.003

Chin, W. W. 2010. How to write up and report PLS analyses, Chapter 29 in V. E. Vinzi, W. Chin, J. Henseler, H. Wang (Eds.). *Handbook of partial least squares: concepts, methods and applications*. Berlin: Springer. https://doi.org/10.1007/978-3-540-32827-8 29

Costa, M.; Zouein, P.; Rodrigues, N.; Arruda, J.; Vieira, M. 2012. Sensory marketing: consumption experience of the Brazilian in the restaurant industry, *International Journal of Business Strategy* 12(4): 165–171.

Çifci, S.; Ekinci, Y.; Whyatt, G.; Japutra, A.; Molinillo, S.; Siala, H. 2016. A cross validation of consumer-based brand equity models: driving customer equity in retail brands, *Journal of Business Research* 69(9): 3740–3747. https://doi.org/10.1016/j.jbusres.2015.12.066

Ding, C.; Tseng, T. 2015. On the relationships among brand experience, hedonic emotions, and brand equity, *International Journal of Distribution & Logistics Management* 49(7/8): 994–1015. https://doi.org/10.1108/02656710210415703

Dolbec, P.-Y.; Chebat, J.-C. 2013. The impact of a flagship vs. a brand store on brand attitude, brand attachment and brand equity, *Journal of Retailing* 89(4): 460–466. https://doi.org/10.1016/j.jretai.2013.06.003

Esch, F-R.; Möll, T.; Schmitt, B.; Elger, C. 2012. Brands on the brain: do consumers use declarative information or experienced emotions to evaluate brands?, *Journal of Consumer Psychology* 22(1): 75–85. https://doi.org/10.1016/j.jcps.2010.08.004

Foster, J.; McLelland, M. A. 2015. Retail atmospherics: the impact of a brand dictated theme, *Journal of Retailing and Consumer Services* 22: 195–205. https://doi.org/10.1016/j.jretconser.2014.07.002

Gentile, C.; Spiller, N.; Noci, G. 2007. How to sustain the customer experience: an overview of experience components that co-create value with the customer, *European Management Journal* 25(5): 395–410. https://doi.org/10.1016/j.emj.2007.08.005

Götz, O.; Liehr-Gobbers, K.; Krafft, M. 2010. Evaluation of structural equation models using the partial least squares (PLS) approach, Chapter 29 in V. E. Vinzi, W. Chin, J. Henseler, H. Wang (Eds.). *Handbook of partial least squares: concepts, methods and applications*. Berlin: Springer. https://doi.org/10.1007/978-3-540-32827-8 30

Hair Jr, J.; Hult, G.; Ringle, C.; Sarstedt, M. 2016. A primer on partial least squares structural equation modeling (PLS-SEM). Sage Publications.

Hultén, B. 2011. Sensory marketing: the multi-sensory brand-experience concept, *European Business Review* 23(3): 256–273. https://doi.org/10.1108/09555341111130245

Hultén, B.; Broweus, N.; van Dijk, M. 2009. Sensory marketing. Basingstoke: Palgrave Macmillan. https://doi.org/10.1057/9780230237049

Iglesias, O.; Singh, J.; Batista-Foguet, J. 2011. The role of brand experience and affective commitment in determining brand loyalty, *Journal of Brand Management* 18(8): 570–582. https://doi.org/10.1057/bm.2010.58

Jamaluddin, M.; Hanafiah, M.; Zulkifly, M. 2013. Customer-based psychology branding, *Procedia – Social and Behavioral Sciences* 105: 772–780. https://doi.org/10.1016/j.sbspro.2013.11.080

Jani, D.; Han, H. 2014. Personality, satisfaction, image, ambience, and loyalty: testing their relationships in the hotel industry, *International Journal of Hospitality Management* 37: 11–20. https://doi.org/10.1016/j.ijhm.2013.10.007

Keller, K. 1993. Conceptualizing, measuring, and managing customer-based brand equity, *Journal of Marketing* 57: 1–22. https://doi.org/10.2307/1252054

Khanna, P.; Mishra, S. 2012. Power of senses in branding and its impact on consumer, VSRD International Journal of Business and Management Research 2(12): 620–623.

Krishna, A. 2010. Sensory marketing: research on the sensuality of products. New York, NY: Taylor and Francis Group.

Krishna, A. 2012. An integrative review of sensory marketing: engaging the senses to affect perception, judgment and behavior, *Journal of Consumer Psychology* 22(3): 332–351. https://doi.org/10.1016/j.jcps.2011.08.003

Kumar, R. S.; Dash, S.; Purwar, P. C. 2013. The nature and antecedents of brand equity and its dimensions, *Marketing Intelligence & Planning* 31(2): 141–159. https://doi.org/10.1108/02634501311312044

Lin, Y. 2015. Innovative brand experience's influence on brand equity and brand satisfaction, *Journal of Business Research* 68(11): 2254–2259. https://doi.org/10.1016/j.jbusres.2015.06.007

Lindstrom, M. 2005a. Brand sense: build powerful brands through touch, taste, smell, sight and sound. New York, NY: Koogan Page.

Lindstrom, M. 2005b. Broad sensory branding, *Journal of Product & Brand Management* 14(2): 84–87. https://doi.org/10.1108/10610420510592554

Marcoulides, G.; Saunders, C. 2006. Editor's comments – PLS: a silver bullet?, MIS Quarterly 30(2): iii–ix.

Maymand, M.; Ahmadinejad, M.; Nezami, P. 2012. Sensory brand: studying relationship between 5 senses and brand value at world's 100 top companies, *Australian Journal of Basic and Applied Sciences* 6(8): 337–343.

Morrison, S.; Crane, F. 2007. Building the service brand by creating and managing an emotional brand experience, *Journal of Brand Management* 14(5): 410–421. https://doi.org/10.1057/palgrave.bm.2550080

Nadiri, H.; Gunay, G. N. 2013. An empirical study to diagnose the outcomes of customers' experiences in trendy coffee shops, *Journal of Business Economics and Management* 14(1): 22–53. https://doi.org/10.3846/16111699.2011.631742

Palmer, A. 2010. Customer experience management: a critical review of an emerging idea, *Journal of Services Marketing* 24(3): 196–208. https://doi.org/10.1108/08876041011040604

Pappu, R.; Quester, P.; Cooksey, R. 2005. Consumer-based brand equity: improving the measurement-empirical evidence, *Journal of Product & Brand Management* 14(3): 143–154. https://doi.org/10.1108/10610420510601012

Pentz, C.; Gerber, C. 2013. The influence of selected senses on consumer experience: a brandy case: original research, *Acta Commercii* 13(1): 1–7. https://doi.org/10.4102/ac.v13i1.183

Pine II, B. J.; Gilmore, J. H. 1998. Welcome to the experience economy, *Harvard Business Review* 76(July–August): 97–105.

Rajput, N.; Dhillon, R. 2013. Frontiers of the marketing paradigm for the third millennium: experiential marketing, *Global Journal of Management and Business Studies* 3(7): 711–724.

Rodrigues, C.; Hultén, B.; Brito, C. 2011. Sensorial brand strategies for value co-creation, *Innovative Marketing* 7(2): 40–47.

Sahin, A.; Zehir, C.; Kitapçi, H. 2011. The effects of brand experiences, trust and satisfaction on building brand loyalty: an empirical research on global brands, *Procedia – Social and Behavioral Sciences* 24: 1288–1301. https://doi.org/10.1016/j.sbspro.2011.09.143

Schmitt, B. 1999. Experiential marketing, *Journal of Marketing Management* 15(1/3): 53–67. https://doi.org/10.1362/026725799784870496

Shah, S.; Jaffari, A.; Waris, S.; Ejaz, W.; Fatima, M.; Sherazi, I. 2011. The impact of brands on consumer purchase intentions, *Asian Journal of Business Management* 4(2): 105–110.

Sheng, M.; Teo, T. 2012. Product attributes and brand equity in the mobile domain: the mediating role of customer experience, *International Journal of Information Management* 32(2): 139–146. https://doi.org/10.1016/j.ijinfomgt.2011.11.017

Streicher, M. C.; Estes, Z. 2016. Multisensory interaction in product choice: grasping a product affects choice of other seen products, *Journal of Consumer Psychology* 26(4): 558–565. https://doi.org/10.1016/j.jcps.2016.01.001

Wang, W-T.; Li, H.-M. 2012. Factors influencing mobile services adoption: a brand-equity perspective, *Internet Research* 22(2): 142–179. https://doi.org/10.1108/10662241211214548

Yoo, B.; Donthu, N. 2001. Developing and validating a multidimensional consumer-base brand equity scale, *Journal of Business Research* 52(1): 1–14. https://doi.org/10.1016/S0148-2963(99)00098-3

Yoo, B.; Donthu, N.; Lee, S. 2000. An examination of selected marketing mix elements and brand equity, *Journal of the Academy of Marketing Science* 28(2): 195–211. https://doi.org/10.1177/0092070300282002

Yoon, S.-J.; Park, J. 2012. Do sensory ad appeals influence brand attitude?, *Journal of Business Research* 65(11): 1534–1542. https://doi.org/10.1016/j.jbusres.2011.02.037

Zarantonello, L.; Schmitt, B. H. 2010. Using the brand experience scale to profile consumers and predict consumer behaviour, *Journal of Brand Management* 17(7): 532–540. https://doi.org/10.1057/bm.2010.4

António C. MOREIRA obtained his PhD in Management from UMIST-University of Manchester Institute of Science and Technology, England. He is Assistant Professor at the Department of Economics Management, Industrial Engineering and Tourism from the University of Aveiro, Portugal. He is member of GOVCOPP.

Nuno FORTES obtained his PhD in Management, with Marketing specialization from ISCTE – Lisbon University Institute. He is Assistant Professor of Marketing at Polytechnic Institute of Coimbra – ESTGOH, where he coordinates the Master in Marketing and Communication and the Master in Business Management.

Ramiro SANTIAGO obtained his Bachelor's and Master's degree in Management, both from the University of Aveiro.