

THE INFLUENCE OF PRODUCT PRESENTATION ON HOTEL WEBSITE REVISIT INTENTIONS: THE MEDIATING ROLE OF MENTAL IMAGERY

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—Abstract—

The research on mental imagery in South Africa is nascent, thereby proffering fertile ground for understanding how sensory experiences and conative reactions towards hotel websites could be enhanced. This consequence steered the adoption of a unique cognitive epoch in this work, wherein the influence of mental imagery on the revisit intentions of hotel clientele is investigated. In this vein, this study asserts that selected website atmospheric elements are responsible for activating mental imagery among potential hotel guests. While using a self-administered survey instrument on a sample of 372 South African consumers, a structural equation modelling methodology was applied. The results of the study established that aesthetics ($\beta = +0.650$; $p < 0.01$), symbolism ($\beta = +0.276$; $p < 0.01$) and playfulness ($\beta = +0.252$; $p < 0.01$) are the three website stimuli that promote the development of mental imagery among consumers who visit hotel websites. Furthermore, mental imagery was found to have a positive and significant influence on the revisit intentions of hotel guests ($\beta = +0.703$; $p < 0.01$). The results of this study shed novel light on extant online retailing literature that seeks to advance the mental imagery perspective. The study provides practical information to guide tourism marketers with regard to the pivotal cues to look out for upon designing hotel websites.

Keywords: Aesthetics, playfulness, symbolism, mental imagery, hotel websites

JEL Classification: M31

1. INTRODUCTION

Tourism products have been described as hedonic goods, for which consumption is characterised mainly by an affective and sensory experience of aesthetic or sensual

pleasure, fantasy and fun (Hirschman & Holbrook, 1982). Relatedly, travel products appear to be unique, complex and experiential in nature, making it difficult to assist online consumers to form concrete expectations and reach informed decisions effectively. Thus, it is important for tourism marketers to understand how customers make sense of tourism products and create and attach self-relevant meanings to them. Yoo and Kim (2014) argue that sensory experiences can lead to profound changes in consumer attitudes. In addition, the scholar suggests that sensory information can provide more vivid and imaginative shopping experiences for consumers. According to Lindstrom (2005:10), “our senses are our link to memory and can tap right into emotion, thus marketers should use the emotional connection bringing on the five senses.” Given today’s intensified competition among tourism service providers, it remains vital to develop sensory appeals carefully, which can result in consumer preference and brand advantage.

During a shopping experience (physical or online), consumers often use mental imagery, particularly to choose a desired product (Yoo & Kim, 2014). Mental imagery is defined as “a mental event involving the visualization of a concept or relationship” (Lutz & Lutz, 1978:611). One of the most important characteristics of mental imagery is that it is multi-sensory involving smell, taste, sight, hearing and touch. Thus, the individual mentally manipulates information drawn from his/her environment. Bolls and Muehling (2007) believe that mental imagery has the specificity of being triggered fully when a limited number of sensory modalities are activated. According to the authors, simultaneous arousal of several senses causes interaction between them, thereby evoking clarity of formed mental images. Compared to a physical store that can stimulate the five senses all together, it is easy to notice that a website can stimulate only two, vision and hearing (Yoo & Kim, 2014). This reduced number of senses likely to be activated potentially promotes the formation of mental images. In particular, visual mental imagery is probably the most pronounced in online contexts since it is linked directly to marketing stimuli. Particularly, commercial websites seem to be very likely to stimulate mental imagery. Of note, Hirschman (1984) contends that mental imagery affects consumers’ ability to imagine (visualise images in the mind), recall prior experiences in images and change their cognitive states.

To interrogate the concept of mental imagery among surfers of commercial websites in South Africa, this study borrows from the dual coding theory (Paivio,

1965) as well as the work of MacInnis and Price (1987) on imagery information processing. The dual coding theory views cognition activities as emanating from mental subsystems, namely a verbal system (processing verbal events) and an imaginal system (processing non-verbal events). These two sub-systems are thought to be separate but interconnected components of human cognition. According to Paivio (1978), encoding of information in memory is done as a verbal or non-verbal form. When a person encounters a visual stimulus like a picture, an imaginal code is activated, whereas the verbal code is activated when the person encounters a verbal stimulus like text (Yoo & Kim, 2014). The dual coding model further assumes that verbal information is sequentially processed, whereas visual information is simultaneously processed and encoded as both images and verbal traces (Paivio, 1965). In particular, visual and verbal information elicit individuals' emotional and conative reactions, connecting to visual mental representations.

2. RESEARCH QUESTIONS

Drawing from Paivio's dual-coding theory (1965), which helps schematise the links that exist between stimuli (iconic or verbal – concrete or abstract), mental imagery and memorisation, several authors (Khrouf & Frikha, 2016; Argyriou, 2012; Bolls & Muehling, 2007)) have attempted to conjure up the mediating role of mental imagery on surfers' conative responses. Nevertheless, no study, to the researcher's knowledge, has conceptualised the central role of mental imagery on the revisit intentions of potential hotel guests in South Africa. Moreover, the progressive development of e-commerce is inciting researchers in marketing to focus more attention on web users. Therefore, this article aims to proceed in the same direction by addressing the following research questions:

RQ1: What elements of product presentation (verbal and non-verbal) stimulate mental imagery on a hotel website?

RQ2: What role does mental imagery triggered by a product presentation on a hotel website play in the production of consumer behavioural responses?

3. HYPOTHESES FORMULATION

This section will provide the hypotheses formulation for the current study. Product presentation factors that are both verbal and/or textual (symbolism) and non-verbal (aesthetics and playfulness) will be discussed as they relate to both mental imagery and consumers; behavioural reactions.

3.1 Aesthetics and mental imagery

Demangeot and Broderick (2006) mention that aesthetics in e-retailing could be created through appropriate design and a combination of colours, graphics, layout, fonts and photographs. Owing to the aforementioned elements, the variable is variously labelled as “web appearance” (Kim & Stoel, 2004), “sensation” (Trocchia & Janda, 2000), “visual appeal” (Loiacono, Chen & Goodhue, 2002), “aesthetic design” or “atmospheric qualities” (Wolfenbarger & Gilly, 2003). Building upon the broad conceptualisation of this dimension, aesthetics in this research is considered as it relates to a passive interaction with the environment, whereby the consumer receives these cues by being exposed to a specified website. Swilley (2012) found that aesthetics act as stimuli in terms of both cognitive and emotional responses. The scholar initially considered that a person’s perceptions of the aesthetics of an object could be captured by product design, pictures, colour and website appearance. Such mental imagery, in turn, plays an important role in forming attitudes about products and resembles cognitive processes that occur when experiencing real objects. In tourism marketing contexts, consumers can conjure up a hotel vacation experience by combining various pictures with their prior experiences. In lieu of this, the mental imagery evoked by concrete pictures in a travel advertisement enhances behavioural intentions leading to the following testable hypothesis:

H₁: Website aesthetics positively influences mental imagery

3.2 Playfulness and mental imagery

According to Mathwick, Rigdon and Malhotra (2001), the concept of playfulness is conceived best by observing the activities that create intrinsic enjoyment as well as feelings of escapism and temporary getaway from everyday routine. In the context of websites, playfulness comprises the “extent to which customers enjoy visiting the sites, leading to enhanced online participation, excitement, charm and customer concentration” (Huang & Liao, 2017:474). Consistent with the elaboration likelihood model proposed by Hirschman and Holbrook (1982), when users have a high level of expectation for the playful nature of a new product or service such as intensive imagination, feelings and amusement, users affective expectations are bound to be aroused. For playful web-surfers, this process of seeking and finding enjoyment is likely to increase the congruence between the self and the impression of a forthcoming product or service offering. Therefore, this study postulates that:

H₂: Website playfulness positively influences mental imagery

3.3 Symbolism and mental imagery

Given the importance of navigation in virtual environments, many symbols are incorporated expressly for function or design. The extent to which such symbols successfully facilitate navigation will often be critical to the success of shopping experiences. In this case, signs (including site credibility and sponsor reputation insignia), certification and rating services (such as eTrust, Verisign and BizRate) could be used as symbolic marks to indicate the stamp of approval on certified websites. Alternative cues for judging site credibility can derive from design elements such as affiliate linkages and traffic counters. Apart from the aforementioned, Lien and Chen (2013) also found that concrete text enhances readers’ imagery processing through representing the images in their minds. These and other common web design tools can transmit important symbolic messages that should be explored further in understanding mental imagery. Therefore, it is hypothesised that:

H₃: Website symbolism positively influences mental imagery

3.4 Mental imagery and behavioural reaction by consumers

Behavioural intentions are one of the most studied conative responses to mental imagery (Argyriou, 2012). According to Yoo and Kim (2014), mental imagery that creates positive emotions elicits approach responses, whereas mental imagery that creates negative emotions elicits avoidance responses. Interestingly, the emotions evoked by elaborated imagery processing may reduce the delay between purchase consideration and actual purchase, thus affecting purchase timing. Moreover, imagery processing can enhance the consumption experience because the sensory experience evoked by imagery processing allows consumers to attain some of the enjoyment, satisfaction or stimulation that would derive from actual consumption (Hirschman & Holbrook, 1982). Among web-surfers, the intentions to purchase from a commercial website (Khrouf & Frikha, 2016; Animesh, Yang & Oh, 2011; Schlosser, 2003) and stickiness of a website or its capacity to retain web-surfers for long hours on the site (Khrouf & Frikha, 2016) seem to have garnered considerable attention from scholars. This study sought to impress upon the notion that mental images allow web-surfers to gain interest in revisiting the website in order to examine, in depth, some details left unclear in their minds and thereby reward their curiosity. This research concurs with MacInnis and Price (1987) who uphold that the hedonic nature of mental imagery may lead web-surfers to like to stay longer on the website in order to maintain the felt pleasure, even when the possibility to experience the product or service is unavailable. Accordingly, the following hypothesis is proposed:

H4: Mental imagery positively influences website revisit intention

4. RESEARCH DESIGN AND METHODOLOGY

Khrouf and Frikha (2016) underscore that the study of mental imagery be approached in a real context in which the phenomenon under investigation takes place, whereas Ettis (2008) asserts that website atmosphere also is studied best under real navigation conditions. In lieu of this, the researcher noted that laboratory

research might compromise the current work by leading subjects to behave less naturally. As a result, the study participants were exposed to a real online stimulus through a hotel website nominated as the most comfortable hotel in South Africa (2016) by the official reviews on TripAdvisor hotel tourism destinations. This was done with a view to enable the participants to simulate real navigational conditions, consistent with the premises set by Ettis (2008).

4.1 Measures

The online questionnaire instrument used in the study consisted of seven-point Likert scales derived from previous research. In particular, website aesthetics (AE1-AE5), symbolism (SYM1-SYM4) and playfulness (PLAY1-PLAY4) scale items were adapted from Koo and Ju (2010), Montoya-Weiss, Voss and Grewal (2003) and Celik (2008), respectively. Mental imagery (MI1-MI4) was a modified version of Schlosser's (2003) scale, while the intention to revisit the website (INV1-INV5) was measured by the scale of Demangeot and Broderick (2006).

4.2 Data collection process

After conducting a two-minute pre-test based on memory recall, a conveniently selected sample of 50 students identified the Protea hotel as a stimulus. The Protea group website comprises 45 webpages, offering hotel and lodging services in Gauteng South Africa. To the exclusion of the pre-test sample, the researcher was able to identify the target segment of the specific website of choice through snowball sampling in June 2016. Beginning with the researcher's circle of acquaintances, 400 participants were invited through e-mail and social networks. Thereafter, subsequent participants were added to the study based on a referral basis. Nevertheless, to eliminate bias, the email invitations contained a preliminary question that ascertained that they had never visited the Protea hotel website before. Thereafter, the participants were directed to a link, where they were asked to navigate the website by themselves and not to do anything else during the visit. Subjects were free to navigate on the pages they chose without a limit of time as suggested by Ettis (2008). No specific directives were given in order to simulate a real navigation experience and to avoid influencing their behaviour. When they

finished, they had to click on a link that directed them to the questionnaire ([http://myresearchsurvey.com/mental imagery](http://myresearchsurvey.com/mental_imagery)). The participants were asked to focus on navigating on the website and never come back once they worked on the questionnaire. Using the Sitemeter software, 20 web-surfers who consulted less than five web pages and 8 participants who spent more than 30 minutes on the website were eliminated, as it highly likely that they interrupted their visit to do something else. As a result, 28 were excluded from the final analysis due to data intrusion, leaving a total of 372 valid responses, with 93 percent response rate.

5. DATA ANALYSIS

Initially, preliminary analysis of the data was conducted using the statistical software SPSS, version 22.0. Thereafter, a structural equation modelling (SEM) procedure was applied to perform the hypotheses testing using the AMOS (version 24.0) package.

5.1 Sample composition

Within the final sample, almost 70 percent of the respondents were female (69.9 percent; $n = 260$) while 30.1 percent ($n = 112$) were male. In terms of age distribution, the majority were aged 20 to 40 years, accounting for 88 percent ($n = 327$) of the sample. In terms of highest educational qualification, approximately 63 percent ($n = 234$) of the respondents were diploma holders while 15.6 percent ($n = 58$) purported to be degree holders.

5.2 Data normality and outliers

With regard to countering non-normality of data and possible existence of outliers, descriptive statistics, Cook's distance values and residual plots were computed prior to the SEM evaluation. The computed mean values in this work ranged between 4.437 and 4.809 while the standard deviation values were spread narrowly around the population variance (ranging between 0.947 and 1.125). In addition, the

computed skewness and kurtosis statistics were within the recommended range of ± 2 , as suggested by Malhotra (2010). A general rule of thumb is that observations with a large Cook's D value of more than three times the mean (μ), is a possible outlier (Tabachnick & Fidell, 2007). In this study, the maximum value for Cook's distance was 0.069 indicating that the existence of outliers would not affect the model results. Moreover, a visual inspection of the scatterplot revealed scores clustered in the middle, tangential to the zero-point with no curvilinearity, while the standardised residual plot showed values ranging between ± 3.3 , recommended by Tabachnick and Fidell (2007).

5.3 Exploratory factor analysis

An exploratory factor analysis was performed using principal components analysis (PCA) to test the construct validity. The KMO value was 0.812 and Bartlett spherical test showed a significant result with a large chi-square value ($\chi^2=8105.213$; $p<0.01$), indicating factorability. Thereafter, Varimax orthogonal rotation was applied, producing five unique components based on Kaiser's eigenvalue rule (greater than 1.000), the scree plot point of tailing off and accounting for 65.391 percent of total variation across all variables. One item (INV5) was eliminated from the revisit intention scale based on unsatisfactory factor loading (below 0.50). All other items loaded as expected with their factors. After this first purification, internal coherence coefficient values ranging between 0.826 and 0.879 were generated across all variables, indicating good reliability.

5.4 Measurement model evaluation

A confirmatory model development strategy was followed to confirm the dimensional structure of the constructs used in this research as well as the level of internal consistency among the respective indicators. Specifically, a measurement model was specified using maximum likelihood extrapolation (MLE) technique. Initial model estimation was extrapolated at $CMIN/DF=2.464$ (<3.0); $p<0.01$. It is important to note that the significant chi-square value is disregarded by researchers due to sensitivity of the index to large sample sizes and a large number of indicators (Malhotra, 2010). To overcome this limitation, Byrne (2010:77) proffers that a

more “pragmatic approach is to report on multiple indices that are not based on the central distribution”. Therefore, the following indices demonstrated adequate model fit as follows: NFI=0.921 (≥ 0.90); RFI=0.918 (≥ 0.90); TLI=0.943 (≥ 0.90); CFI=0.951 (≥ 0.90); IFI=0.952 (≥ 0.90); RMSEA=0.057 (≤ 0.08) and PClose=0.124 (> 0.05).

Jöreskog and Sörböm’s (1993) triple criteria set for confirmatory model development was applied in this work. First, in terms of the weak convergence criterion whereby indicators that do not show significant factor regression coefficients should be eliminated, all the indicators in this research reported significant factor regression coefficients ($p < 0.01$). Secondly, in terms of the strong convergence criterion involving the elimination of non-substantial indicators with loadings below 0.50; aesthetics (0.699 to 0.842), playfulness (0.691 to 0.813), symbolism (0.701 to 0.778), mental imagery (0.617 to 0.703) and revisit intentions (0.633 to 0.765) exceeded the 0.50 threshold considered to be adequate for confirmatory factor analysis by Malhotra (2010). Thirdly, Jöreskog and Sörböm (1993) suggest eliminating the indicators that contribute least to the explanation of the model, taking as a cut-off point R^2 is greater than 0.30. The reported SMC values across all indicators ranged between 0.380 and 0.709, thereby justifying adequate explanatory power ($R^2 > 0.30$) of the indicators used in the measurement model.

5.5 Reliability and validity assessment

The confirmatory factor analysis results and evaluation of the reliability and validity of the measurement model results are reported in Table 1.

Table 1: Measurement model results

Construct	Items	Reliability tests		Validity tests	
		Cronbach's alpha coefficient	CR	AVE	\sqrt{AVE}
Aesthetics	AE1-AE5	0.879	0.923	0.521	0.722
Playfulness	PLAY1-PLAY4	0.863	0.906	0.667	0.817
Symbolism	SYM1-SYM4	0.831	0.889	0.589	0.767
Mental imagery	MI1-MI4	0.843	0.876	0.650	0.806
Revisit-intentions	VIS1-VIS4	0.826	0.874	0.615	0.784
Thresholds		≥ 0.70	≥ 0.70	≥ 0.50	≥ Greatest correlation coefficient

Reliability was met in terms of the reported Cronbach's alpha coefficient values (ranging between 0.826 and 0.879) and composite reliability values (ranging between 0.874 and 0.923) above the 0.70 threshold. Convergent validity was verified through AVE values ranging between 0.521 and 0.667 (greater than 0.50). Fornell and Larcker's (1981:31) criterion was applied to corroborate the theoretical uniqueness of each construct wherein the findings reveal that while the largest reported correlation coefficient value is 0.578 (between playfulness and revisit intentions), the computed correlation coefficient values in the matrix are subordinate to all the computed square roots of the AVE values (ranging between 0.722 and 0.817).

5.6 Structural model evaluation

In terms of hypothesis testing, the causal paths were assessed in terms of statistical significance and strength using standardised path coefficient values. Chin (1998:13) suggests that only significant ($t > 2.58$; $p < 0.01$) standardised path coefficient values greater than ± 0.20 should be considered noteworthy of reporting in SEM studies as shown on Figure 1.

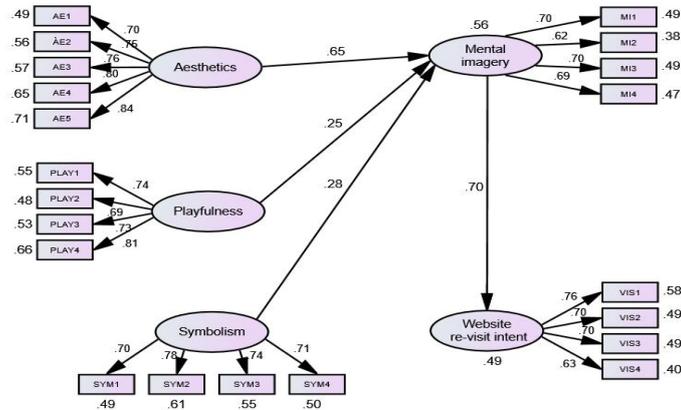


Figure 1: Structural model

Given the large sample size ($N = 372$), the structural model was specified with 252 sample distinct moments with 185 degrees of freedom, yet significant at the 0.000 level, a negative indicator for model fit because it suggests there is a difference between the proposed model and the full model. Nevertheless, if the more suitable goodness of fit indices recommended by Byrne (2010) are applied, the model is well within acceptable parameters: $CMIN/DF=2.089$ (<3.0); $NFI=0.949$ (≥ 0.90); $RFI=0.903$ (≥ 0.90); $TLI=0.917$ (≥ 0.90); $CFI=0.937$ (≥ 0.90); $IFI=0.929$ (≥ 0.90); $RMSEA=0.049$ (≤ 0.08) and $PClose=0.194$ (>0.05).

Since all the estimates have been standardised, the higher the path coefficient value, the greater the influence of the independent variables on the dependent variables. As indicated in Figure 1, both playfulness ($\beta=+0.252$, $t=3.292$; $p=0.003$) as well as symbolism ($\beta=+0.276$, $t=3.614$; $p=0.000$) posed the weakest yet significant and direct influence over mental imagery, respectively. In fact, of the three independent variables, aesthetics ($\beta=+0.650$, $t=7.335$; $p=0.006$) was reported as having the strongest, direct and significant influence on mental imagery in this work. Therefore, hypotheses 1, 2 and 3 were supported. Again, the path between mental

imagery and revisit intentions ($\beta=+0.703$, $t=9.358$; $p=0.001$) was supported in this study, thereby validating support for hypothesis 4. Together, the three variables (aesthetics, playfulness and symbolism) were found to have 56 percent ($R^2=0.562$) explanatory power over mental imagery, while mental imagery presented substantial explanatory power of 49 percent ($R^2=0.494$) on website revisit intentions. Both R^2 values are higher than the medium values of explanatory power and prediction (Chin, 1998). In this regard, the empirical data strongly supports the notion that hypothesis 4 can also be concluded.

6. CONCLUSIONS AND MANAGERIAL IMPLICATIONS

The results of this study demonstrate the process by which mental imagery influences customer revisit intentions to hotel websites, through the predictive web stimuli of aesthetics, playfulness and symbolism. This result provides empirical support for the importance of mental imagery in online product presentation in terms of increasing website revisit intentions. This study extends the existing literature by providing empirical support for the mental imagery in an online hotelier context and provides a new perspective to enhance the effectiveness of web-based product presentations. It is suggested that website designers emphasise the development of clear product presentation strategies, evoking both verbal and non-verbal effects, in view of increasing mental imagery. Whereas notable research on mental imagery tend to utilise a fictitious website (Yoo & Kim, 2014), future research could prioritise the use of hotel websites and images that are unknown to avoid pre-determinable mental imagery. Secondly, the study related to a hotel website, which is largely an experiential product. While this was considered pragmatic, owing to the heightened need for sensory experience, future studies may consider examining more diverse product categories, including both search and experience goods encompassing both product customisation and a virtual product experience.

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