THE EFFECTS OF HOTEL WEBSITE STIMULI ON CUSTOMER'S COGNITION, EMOTION AND INTENTION BASED ON THE EXTENDED SOR MODEL

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Abstract:

The research objective of this paper is to identify and verify the effects of the hotel website stimuli on users' emotions and behavioral intentions by applying the extended Mehrabian and Russell's Stimulus-Organism-Response model. Based on the online survey, the findings are that website design has significant impact on service quality perception. Hotel interior produce higher PAD emotions than hotel exterior. However, the users' emotions are affected by an additional factor - hotel reputation, that is not previously considered under SOR model.

Key words:

hotel website design, Stimulus-Organism-Response model, pleasure-arousal-dominance emotions, behavioural intentions.

1. INTRODUCTION

The guest will get the first impression about the hotel via its website, or by reading any information available on the Internet. According to the European Commision research (2015), 46% respondents consider Internet websites as the most important tool when making decisions about their travel plans. Therefore, the quality of hotel website, and profile on social networking websites, visibility and good search engine positioning, positive reviews on OTA (Online travel agencies) are only one way to grab the customer's attention. In comparison to the traditional dimensions (Zeithaml *et al.*, 2006), the online service quality (SQ) attributes are summarized in Table 1 (Njegus, 2014).

Traditional dimensions	Online SQ dimensions	Online Service attributes
Tangibility	Website design	Accessibility, Usability, Navigation, Attractive
Reliability	Website content	Funcionality, Information quality, Accuracy, Timely, Relevance, Understandable, Complete, Current; Dynamic, Multilanguage, Fulfilment
Responsiveness	Responsive	Communication, Efficiency
Assurance	Security	Credibility, Trust building, Privacy
Empathy	Personalization	Customization (intelligent tools)

Table 1. Website service quality attributes as stimuli

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The question that arises from this point of website design and SQ attributes: Are these online service attributes enough for user to react? What impression does the website design leave on the end user? What are user's emotion when interacting with the website? Does this emotion, caused by design, have influence on user' purchase intention? Therefore, it is inevitable to introduce behaviouristic psychology when designing the website, or more specifically, social psychology, color psychoogy, visual hierarchy, emotional triggers, pattern recognition and other.

Mehrabian and Russell's Stimuli-Organism-Response (SOR) model, introduced in 1974, was the first to suggest a link beween the physical environment and human emotions and response behaviors. However, with advancement of information and internet technologies, this model has been expanded on virtual environment, since any stimuli factors, such as: social, design, and ambient, could be also applied virtually (Kim *et al.*, 2012) (Chehimi, 2014). Kotler (1973) also introduced environmental atmospherics as an important marketing tool. Bitner (1992) introduced term "servicescape" that describes how physical environment (layout, design, decoration, aesthetics) influences users' internal states and behavior. The term "e-servicescape", as natural extension due to the internet expansion, applies the qualities of physical servicescapes into the online environment (Koering, 2003) describing how the user feels when visits a web site (Lee *et al.*, 2012).

Previous studies, related to tourism and hospitality, have analysed the influence of website features on attitude, satisfaction, and purchase intentions (Tang *et al*, 2012; Bai *et al*, 2008; Rasty *et al*, 2013). However, these studies do not investigate the mediating role of emotions between website stimuli and purchase intention. Mehrabian in 1996, illustrated that when a user enters an environment, the three emotions are induced: pleasure, arousal, dominance (PAD). According to Zimmerman (2012) research, pleasure, and arousal affects the user to revisit the website, and dominance produces purchase intention, and brand loyalty, and is leaded by good interface design, and interactive services.

The main goal of this paper is to examine the effects of the hotel website stimuli on the users' cognitive and affective states that influence their response behaviors (*e.g.* purchase intention).

The paper is structured into two main parts. In the first part, SOR model, website design trends, and previous research about the effects of website stimuli on user behavior, are discussed. In the second part the research, methodology is given through discussed data analysis and results.

2. LITERATURE REVIEW AND THEORETICAL BACKGROUND

SOR model

SOR model, firstly applied to traditional retail stores, is recently used in the online context. Website stimuli (S) refers to aesthetic and sensory perceptions of a website, that includes website design, security/privacy, services. In more detail it refers to images, sounds, colors, words, features *etc.*

The organism (O) refers to emotional and cognitive states that users experience when visiting the website. Therefore, organism is made up of the affective (hedonic attitudes) and cognitive (utilitarian attitudes) mediating variables. Affective variables include pleasure, arousal, and dominance. Pleasure involves joy, happiness, satisfaction. Arousal refers to the degree a person feels stimulated, excited or active. Dominance refers to an user feeling in control, autonomous and free when visiting website. It is the degree of influence and power on the service, realization, and outcome (Loureiro, 2014). When interacting with the website, users try to understand the environment before making any judgment, decision, or evalution. Thus, the website stimuli causes a change in the user's internal state of mind.

Finally, response (R) refers to final attitude, and behavioral reaction (eg. purchase). All positive previous actions can lead to the intention to stay, explore and affiliate (Sarkar *et al.*, 2013).

Website design trends

Website design trends are largely dictated by developments in information technologies, but also from user behaviour research. Since users often develop an initial impression of a website, within two to seven seconds, the greatest attention is nowadays assigned to aesthetic features of websites. Aesthetic features are visual items such as pictures, colors, clear readable text, organized layout, changing look, proper use of fonts, multimedia, style consistency, and other (Nevarez *et al*, 2012). Since information through visuals is processed faster, photos are still dominating in web design, especially natural looking photos that connect with people on a different emotional level. Colors are influencing the perception of an object and communicate a certain emotional energy. Good examples in tourism industry are Airbnb (www.airbnb.com) or Uber (www.uber.com). Micro-interactions, material design, minimalism, full screen videos, responsive design, correct typography, card based interface design, storytelling design, hover animations, and many other trends are

just a few that attract the user's attention. Visual hierarchy of website elements that influence user's point of entry is given in Table 2 (Djamasbi *et al*, 2010).

Website element	Description
Motion	Animated elements draw attention before any other
Size	Larger objects attract more attantion
Images	Attract more attantion than text
Color	Elements with brighter colors drive more attention than darker
Text style	Typographic serve as effective non verbal tool
Position	Top elements attract more attention than those on the bottom

Table 2. Website visual hierarchy

The effect of website stimuli on organism and response

According to the previous research, there are several website stimuli that have the strongest impact on PAD. Interface design and product presentation have bigger impact on pleasure (Zimmerman, 2012; Menendez at al, 2010). Arousal intensifies pictures, and custom options. According to Law *et al.* (2003) and Huang *et al.* (2013), enjoyment and playfulness, play an important role. Dominance and trust have the biggest impact on purchase intention. Trust is built upon security/privacy, personalised services, previous guest reviews and reputation (Kim *et al.*, 2012). Overall satisfaction is influenced by interface design and security/privacy. On purchase intention the biggest impact have dominance, and trust. According to Qui *et al.* (2011), website security and price are the most important factors for e-buyers. Intent to revisit the website is affected by pleasure and arousal. According to previous research, conceptual SOR model is drawn (Figure 1).
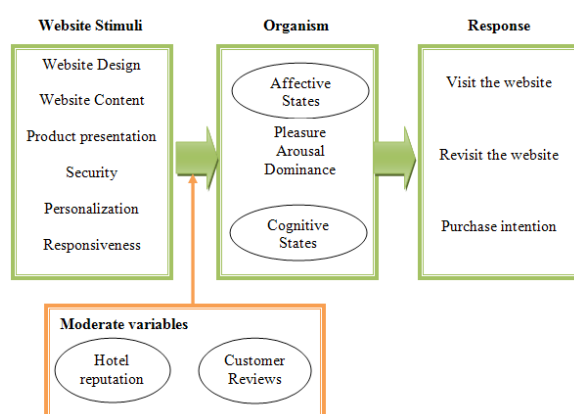

Figure 1. Conceptual SOR model

3. RESEARCH METHODOLOGY

Quantitative research was conducted through an on-line survey in November 2015. The goal of the survey is to analyze to what extent website visual stimuli have influence on customer attitude, emotion and purchase intention. The study included 102 respondents. Respondents of this online survey were, master students at Singidunum University. Online questionnaire consists of 18 questions, open and closed.

Data Analysis and Results

According to demographic characteristics shown in Table 3, the majority of respondents are employed women aged between 25-34.

Attributes		Number of respondents (N)
Gender (N=102)		
	Female	63
	Male	39
Age		
	18 to 24	15
	25 to 34	71
	35 to 44	12
	45 to 54	4
Working status		
	Employed	78
	Student	15
	Freelancer	2
	Unemployed	7

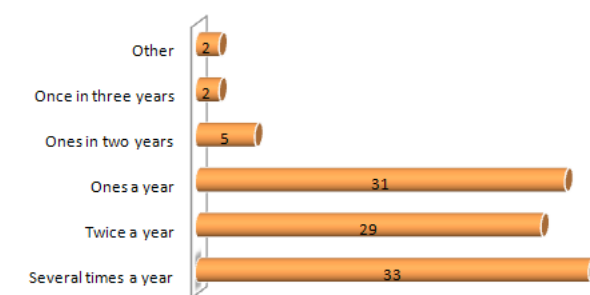Table 3. Demographic characteristics

Figure 2. Travel frequency

They usually travel several times a year (Figure 1), using private accommodation within local host. However, if they choose hotel, it is usually a 3 or 4 star hotel (Figure 2). Internet is the major source for information searching and booking (97%).

Design of the hotel website has major influence on emotion and purchase intention, more then 70%. Brighter colors are preferable, as well as intuitive navigation through site (Figure 3). The content on the website, as well as hotel exterior and interior, shown on website, greatly affect the service quality perception (more then 85 %).

Having analyzed the respondents' answers related to the best hotel website design, it can be concluded that the hotel reputation affects user's emotions, and therefore plays a major role in choosing a hotel. This indicates that if users perceive a hotel reputation to be high, they will tend to experience more positive emotion, and vice versa. This constatation confirms the assertion of Lennon (2013).

According to respondents' answers, hotel interior is more relevant and important than exterior. This statement is confirmed from more than 70% of respondents. Respondents were also provided with a list of available rooms within different hotels. According to the results shown in Figure 5, the minimalism, with bright colors, modern furniture, and simplicity, is still the trend that the website should reflect. This attribute has a significant positive influence on pleasure emotion.
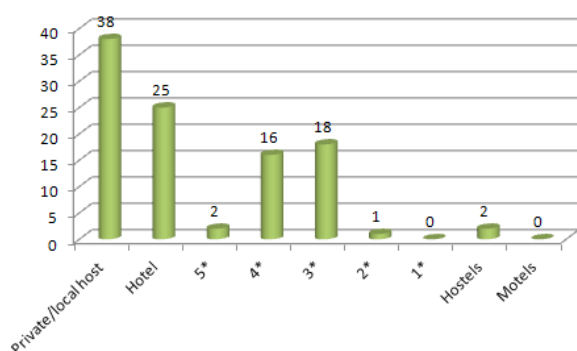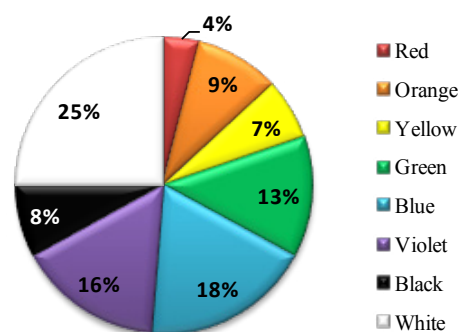

Figure 3. Type of accommodation used

Figure 5. The most preferable hotel website design

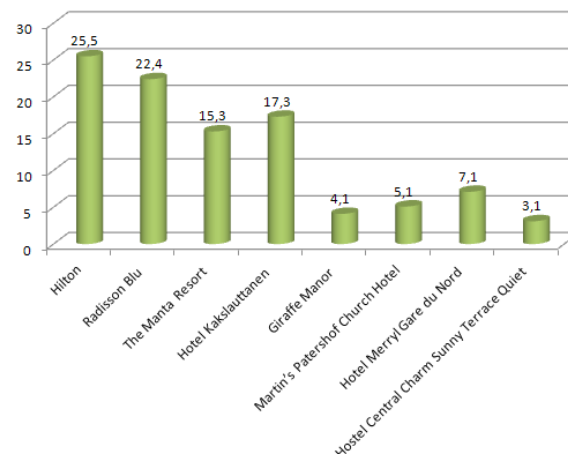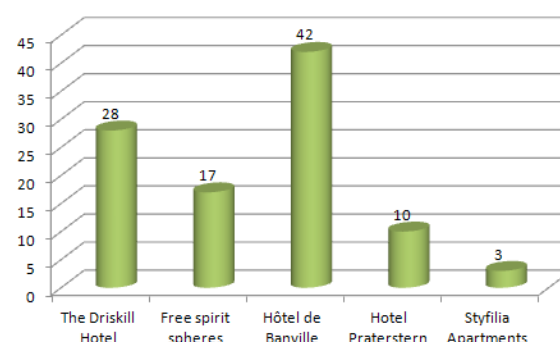Figure 4. The most preferable colors for the hotel website design

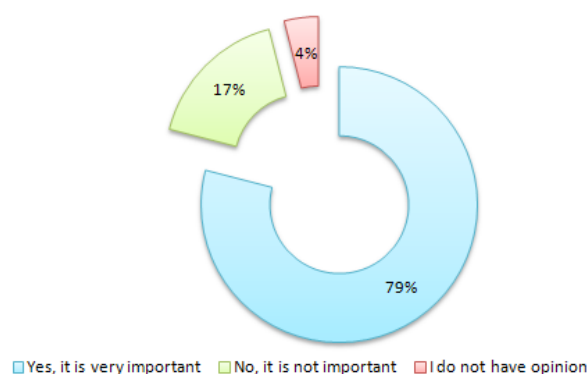Figure 6. The most preferable hotel interior

Figure 7. The importance employee appearance on the website

The appearance of employee on the website, welcoming or explaining the services, has the big impact on emotional arousal.

4. CONCLUSION

Equal attention should be devoted to hotel design and the overall quality of service, in reality, as well as in a virtual environment. The lack of one of these two elements may have the strong influence on the consumer perception. This study is based on the previous research on the implementation of SOR model in website design, and measurement of direct effects on user's response. The results indicated that perceived users attitude on the website design directly affects their response behavior. With respect to the changing trends in website design that obviously change users' emotions and intentions, there is a need to follow the latest trends and implement them to the website.

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