

Atmospherics Effects on Consumer Emotions and Behaviour: Web Site Context

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Abstract. The purpose of this article is to provide a conceptual model for the impact of website atmosphere on the consumer's emotions and behaviour. The results indicated a significant effect on consumer emotions which leads to approach behavior, which depends upon navigation and information content, text with graphical element elements of web site. These findings provide an insight on the consumer's behavior in virtual environment.

Keywords: Consumer Emotions, Virtual Environment, Consumer Behaviour, S-O-R Model.

1. Introduction

Virtual store differs significantly from physical stores because it can affect consumer's emotions and behaviour in a different way than a physical store. Most of the studies focus mainly on web site impact on consumer's emotions but not on consumer's behaviour (Karlsson, 2007; Éthier et. al., 2008). Some of the studies (Eroglu et.al., 2001; Sautter et.al., 2004; Mummalaneni, 2005; Manganari, 2009) focus on web sites atmospherics cues (e.g., colors, music) on consumer emotions and behaviour but not on individual cues (Park et.al., 2005, Park et.al., 2008).

In order to address these gaps in literature, this study focuses on emotions, proposes and examines a conceptual framework for studying effect of web site atmosphere on consumer's emotions and behaviour.

2. Background

2.1. The Importance of Consumer Emotion

Emotions are typically intentional and more intensive (Bagozzi et.al., 1999; Stam et.al., 2010). According to Chamberlain et.al. (2007), emotions are relatively brief, phasic events that are accompanied by physiological processes, often expressed physically (e.g., facial features and etc.) and may result in specific actions.

Most of the studies focused on the pleasure-arousal-dominance (PAD) dimensions of emotions in retail atmospherics (Turley et.al., 2000). In previous studies PAD scale has been widely used in virtual environment (Eroglu et.al., 2001; Sautter et.al., 2004; Richard, 2005; Mummalaeni, 2005, Manganari et.al., 2009, Björk, 2010). The PAD scale is best used when the research study focuses on the measurement of the dimensions of emotional states and does not need to identify the specific emotions of participants (Chamberlain et.al., 2007). Different elements of web site induce different emotions. Information structure, content and pictures stimulated most of the emotions (Björk, 2010), e.g., pictures stimulate more positive emotions than other elements.

In order to identify the specific consumer's emotions, the basic set of emotions of Ekman (1974) has been used in the proposed study.

2.2. Web site Atmosphere: The 7 Cs Framework

Researchers (Eroglu et.al., 2001; Sautter et.al., 2004; Mummalaneni, 2005; Richard, 2005 Manganari, 2009) provide different typologies of web site atmospherics. Eroglu et.al. (2001) provided a comprehensive typology of web site atmosphere but their proposed model do not include the communication element.

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Manganari (2009), Sautter et.al. (2004), Björk (2010) proposed that the communication element should be added.

The conceptual model based on 7 Cs (Context, Content, Community, Customization, Communication, Connection, Commerce) frameworks, was applied in order to categorize the available empirical research findings in virtual environment. A brief summary of researchers who have highlighted the effect of web site atmosphere and design elements on various aspects of consumer behaviour is presented in Table 1 below.

Table 1: Key studies on web site atmosphere

7 Cs dimension		Elements of dimension	Citation
Context	Design	*Aesthetic *Thematic *Colour *Graphical elements	Fiore et.al. (2003); Lee et.al. (2003), Richard et.al. (2005), Mummalaeni (2005), Oh et.al. (2008), Karlsson (2007), Guseva (2009), Koo et.al. (2010), Wang et.al. (2010), Lorenzo et.al. (2008-2010), Constantinides (2004), Björk (2010)
	Layout	*Simple	Björk (2010)
	Navigation	*Hierarchical *Free form *Easy	Constantinides (2004) Romero et.al. (2011)
Content	Content	*Information and graphical elements *Informativeness *Music	Richard (2005), Oh et.al. (2008), Wu et.al. (2008), Lorenzo et.al. (2008-2010), Björk (2010), Li et.al. (2011), Romero et.al. (2011), Ding et.al. (2011)
Communication	Communication	*Email *Live Support *Query	Sautter et.al. (2004), Manganari et.al. (2009), Björk (2010)
Community	Community	*Virtual community	Sautter et.al. (2004)
Customization	Customization	*Customization	Lam et.al. (2004), Manganari et.al. (2009)
Connection	Connection	* Links	-
Commerce	Commerce	*Commerce capabilities	-

2.3. Outcome: Approach / Avoidance

Previous research in conventional stores confirmed that positive emotions lead to approach behavior (Donovon et.al., 1994; Babin et.al, 2004; Jang et.al., 2009; Walsh et.al., 2011; Skandrani et.al., 2011) and it's true in the context of virtual environment also (Eroglu et.al., 2001; Sautter et.al., 2004; Mummalaeni, 2005; Manganari et. al., 2009; Koo et.al., 2010).

2.4. Conceptual Model

The conceptual model is based on Mehrabian and Russell's (1974) stimulus-organism-response (S-O-R) model, which is divided into three parts: stimulus, organism and responses. In the proposed study the web site atmospheric will consists of three dimensions *context*, *content*, *communication dimension*, which will act as stimuli. These stimuli affect the consumer's emotions (organism) and their behaviours (Approach/Avoidance).

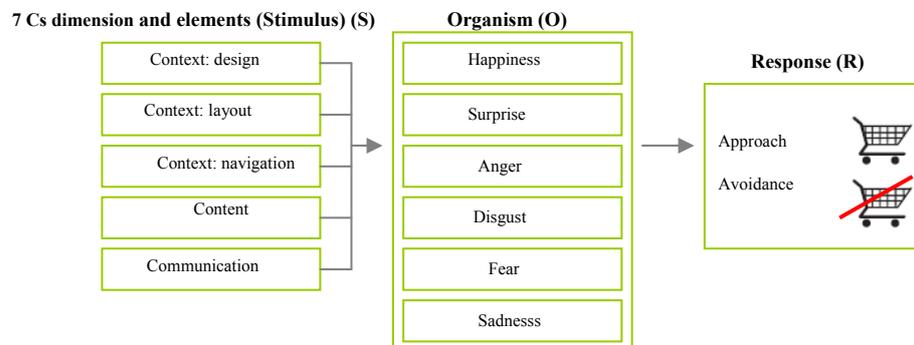


Fig. 1: Conceptual model

3. Methodology

3.1. Study Design and Procedure

The conceptual model is tested for a pharmaceutical website of Seimos vaistine. The study was divided into two phases. First phase involved experiment with Emotion Recognition Software (real-time) and focus group discussion, and second included quantitative measures.

Experiment procedure. The study involved 6 participants (4 women, 2 men; age range 26-27 years, mean age 26,3). During the experimental session, participants watched a 60-s film clip that was composed of 5 stimulus illustrations of web site (design, layout, navigation, content, communication). The experiment design was created according to Bocharov et.al. (2011) and Kätsyri et.al. (2012) recommendations. During the experimental session, six emotions were identified and evaluated after 6 s.

Focus group methodology. Focus group discussion also included 6 respondents. The discussion lasted for couple of hours. A guided agenda was created and helped the conversation to develop in line with research questions (stimulus, consumer's emotions, behaviour).

Quantitativ research methodology. A questionnaire was used which had closed-ended questions measuring respondents' agreement/disagreement on a seven-point Likert scale, except for the responses (approach/avoidance) on a seven-point scale (1-no emotion, 7-very strong).

4. Results

4.1. Experiment and Focus Group Results

The experiment results showed that negative emotions were dominant (as shown in Fig. 2). The web site design stimulated emotions related to surprise and sadness, the layout, navigation mostly stimulated the emotions related to anger and sadness, content and communication on the other had stimulated emotions of sadness.

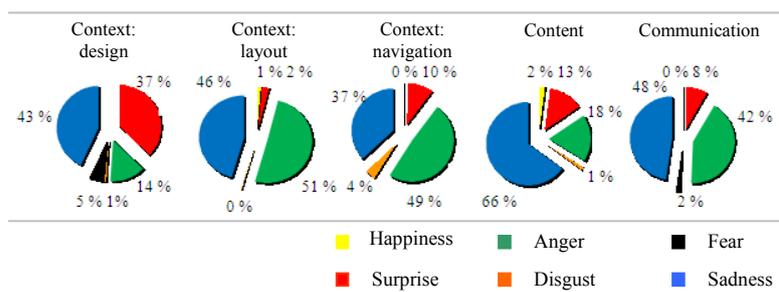


Fig. 2: Consumer's emotions caused web site elements (t=6s), %

Web site elements (S). The elements of web site were analysed, and the findings are presented in Table 2. The identified web site elements categorized into five groups, based upon how often the web site elements were mentioned by respondents.

Emotions (O). In order to compare experiment and focus group results, the emotions were categorized into three groups based on emotions classification of Laros et.al. (2005) (positive, surprise, negative,) and also on how often emotions were mentioned by participants (Table 2).

Responses (R). All participants did not purchase at this web site. The results revealed that the web site atmospherics stimulated most negative emotions leading to avoidance behavior.

There are three major findings from focus group discussion. First, all the web site atmospherics identified in this study and also in previous studies have been identified as quality enhancing elements. Second, the information content and navigation elements stimulated most positive emotions in the participants. Third, these findings, in comparison to experiment results reveal that the information content stimulated most of the positive emotions but navigation elements did not confirm it.

4.2. Quantitative Results

The hypothesis for the quantitative research was based upon the experiment and focus group results, described below:

- H1: Participants favorable to evaluate navigation and content elements of web site.

- H2: The most positive emotions cause navigation and content elements of web site.
- H3: The most impact for the approach depends on positive emotions caused by the navigation and content elements of the web site.

Sample characteristics. In total 93 participants took part in the quantitative research, 64 female (68,8%) and 29 (31,2%) male. The majority (56,9%) of the respondents age was between 18 and 25 years. Seventy five participants had university degree (81,7%). Finally, most of the participants (60%) had previous experience of online shopping.

Table 2: Results of focus group and experiment

7 Cs dimension	Elements	Excerpts from the data(S)	Emotions (O)	Classification of emotion (experiment)	Classification of emotion (focus group)
Context: design	*Colour *Font *Graphical elements *Logo position	“It was not <i>wow I like it</i> ” “Not so bad, no so good” “Banal web site” “No thematic design”	“surprise”, “neutral, no emotions”, “irritation”, “frustration”, “uncertainty”	Surprise, negative	Negative, surprise
Layout	*Simple	“Inappropriate”, “intricate “uncertain”, “the web site is too busy”	“negative”, “surprise, but no negative emotions” “no emotions”, “frustration”, “irritation”	Negative, positive, surprise	Negative
Navigation	*Few-step navigation *Map *Search field	“conservative navigation” “simple, but I have some complains” “logical” and “convenient”	“frustration”, “neutral but no negative emotions”, “normal”, “more positive”, “joy”, “more positives”	Negative, surprise	Positive, negative
Content	*Information content (informativeness) *Information and graphical elements	“need more honest text” “text should convey warm text”, “need more informative” “there is not enough information about drugs” “less information about discounts” “information should be convey with picture”, “not nice pictures”	“negative, no emotions”, “cold emotions”, “frustration”, “positive emotions”	Negative, surprise, positive	Negative, positive
Communication	*Newsletter *Facebook *Skype, Live Support *Query	“newsletter is not enough” “there is no Facebook, Skype or Live support on the web site” “I started to find an icon of Facebook”	“negative”, “frustration”, “no positive, no negative emotions”, “tragic emotions”	Negative	Negative

Web site elements (S). Respondents indicated that the most liked web site elements were - map (5,88), search field (5,88), few-step navigation (5,46) (navigation), logo position (5,46) (design), request form (5,32) (communication). The results demonstrate that hypothesis (H1) was partially supported.

Table 2: Web site elements evaluation (1-7)

Element	Evaluation	Element	Evaluation
Colours	5,18	Search field*	5,88
Graphical elements	4,9	Text content	5,04
Font	4,62	Text with graphical element	5,18
Logo position	5,46	Newsletter	4,9
Layout	5,04	Request*	5,32
Few-step navigation	5,46	Facebook*	4,06
Map	5,88	Skype, Live Support*	3,78

* These elements are not included in “Seimos vaistine” web site.

The relationship between web site elements and emotions (O). As shown in Fig. 3, most of the respondents felt more happiness emotion (positive) on navigation (few-step navigation (3,8), map (3,9)) and content elements (text with graphical element (4,0)) of web site. Hypothesis (H2) was found to be true in this case.

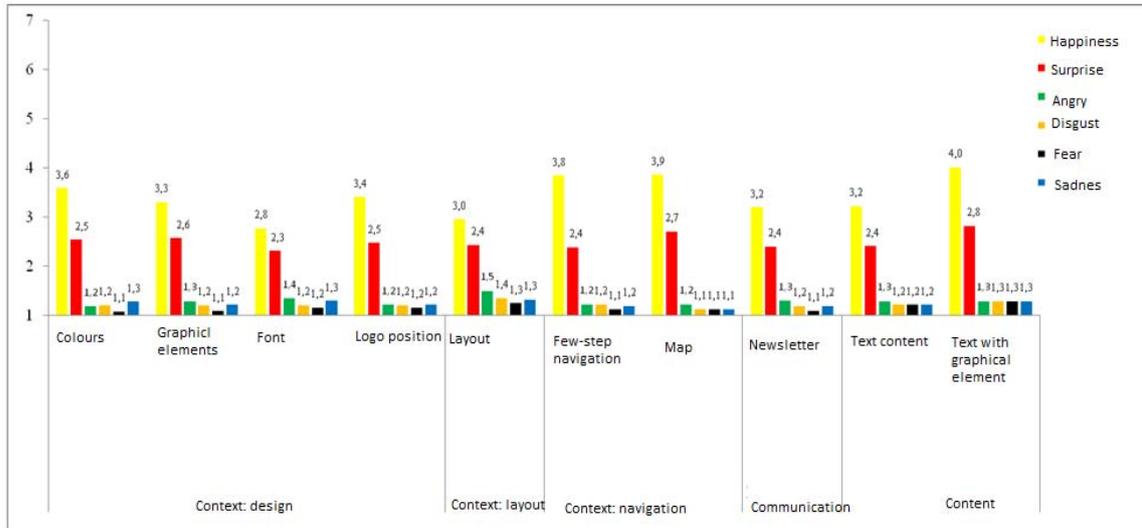
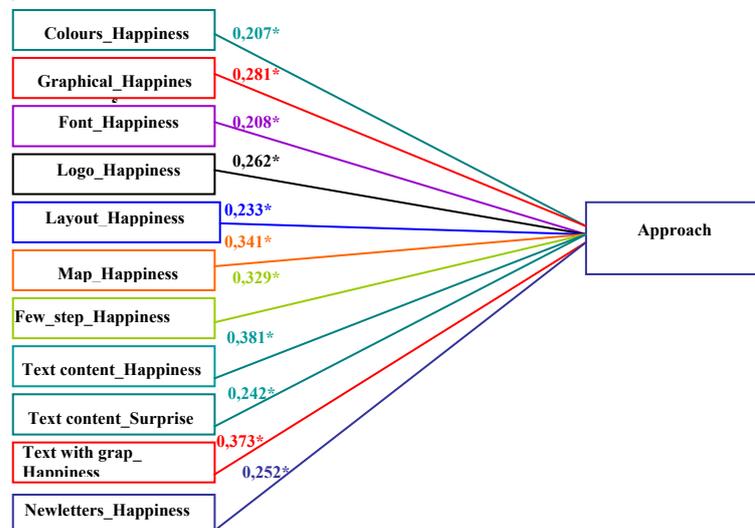


Fig 3. The six emotions effect on web site elements (1-no emotion, 7- very strong)

The relationship between emotions and behaviour (R). The result of correlation analysis between six emotions and approach/avoidance is shown on Picture 3 (significant at the $p < 0,05$ level). The correlation between text content, happiness and approach ($r_s = 0,381^*$) and also text with graphical element_happiness and approach ($r_s = 0,373^*$) was weak.



Picture 3. Correlation coefficients between emotions caused by the web site elements and approach/avoidance

There are two main conclusions from the quantitative study. First, the assumption of the effect of positive emotions on approach behavior i.e., hypothesis (H3) was completely supported. Second, these findings revealed that surprise emotion caused by the text content will lead to approach behavior ($r_s = 0,242^*$).

5. Conclusions and Discussions

The results suggested that the most significant effect on consumer emotions and approach behaviour depends on navigation and information content, and the text with graphical elements of web site. Participants experience higher level of happiness when web site has ease of navigation and was informative. The future

study should focus on these communication elements and also evaluate all web site elements quality (information, pictures quality and etc.) on consumer's emotion and behaviour.

6. Limitations

Results provide interesting findings but the study had several limitations. First, the current study ignored personality differences such as gender and personality traits which may effect the expression of emotion. Second, the nonverbal communications was not observed and recorded in the focus group discussion. Third, participants did not navigate and explored entire web site. A further limitation that the study used narrow set of emotions. For future studies researchers should use more comprehensive set of emotions (e.g., Izard, 1977, Plutchik, 1980) (Eroglu et.al., 2001).

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