WEBSITE ATMOSPHERE: TOWARDS REVISITED TAXONOMY OF WEBSITE ELEMENTS

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crossref http://dx.doi.org/10.5755/j01.em.18.3.5285

Abstract

By synthesizing prior literature, this research proposes a revised taxonomy of website elements and extends the knowledge of the website atmosphere. Website elements are grouped into four components based on Manganari, Siomkos, Vrechopoulos (2009). The component of virtual layout & design is extended by adding navigational design element. Virtual atmospherics are augmented by adding information, aesthetics design, and website brand / personality elements. The last component - virtual social presence is extended by adding elements such as avatars, virtual community, recommendations, and communication. This paper provides the taxonomy of website elements and provides general guidelines for e-retailers to develop an effective website in order to attract and retain consumers. Authors highlight key research implications.

The type of the article: Theoretical article.

Keywords: consumer behaviour, website atmosphere, website elements.

JEL Classification: M31.

1. Introduction

The Internet is the second most important retailing channel in the US and the European Union (Lorenzo-Romero, Constantinides, Alarcón-del-Amo, 2013). According to ComScore Report (2013), in the US, total e-commerce spending reached $289.1 billion in 2012 and showing an increase of 13 percent from 2011. The retail e-commerce spending rised 15 percent to $186.2 billion for the year (ComScore Report, 2013). E-tail industry continues to grow (Wang, Hernandez, Minor, 2010; Lorenzo-Romero et al., 2013) and gains share from “brick-and-mortar” retailing with increasing fiercely competition (Wang, Minor, Wei, 2011; Lorenzo-Romero et al., 2013). As competition increases most e-retail sought to create a more appealing website atmosphere in order to be distinguished from their competitors (Loureiro, Koo, Ribeiro, 2013). Consequently, it generates further research attention in online retail context (Kim, Kim, Lennon, 2009). However, it has never been so important to attract and retain online consumers (Wang et al., 2011). Attracting and retaining customers on websites with enhanced website design is a key element of successful e-retailers’ strategy (Allagui, Lemoine, 2008).

Traditional retail atmosphere theory has attracted a lot of interest from academics (Turley, Milliman, 2000) that examined atmospherics cues. Empirical research on the website atmosphere is limited. With the rapid development of e-commerce all over the world, the online store environment has attracted a lot of attention from both business and academia and has been in existence for 12 years.

Most previous studies focused on a single element (Taylor, England, 2006; Park, Stoel, Lennon, 2008; Wang, Baker, Wagner, Wakefield, 2007; Ben Mimoun, Poncin, Garnier, 2012; Mimoun, 2013; Lorenzo-Romero et al., 2013); others analysed a few elements (Park, Lennon, Stoel, 2005; Allagui, Lemoine, 2008; Björk, 2010; Cai, Xu, 2011; Loureiro et al., 2013).

Eroglu, Machleit, Davis (2001; 2003) proposed a comprehensive taxonomy of website elements but did not include social elements of website expect webcounter. More recently, Manganari et al. (2009) provided a comprehensive review of research on website atmosphere but did not introduce navigational design, aesthetics of website, website brand / personality, avatars,
recomendations, communication and other elements in his comprehensive typology.

There is a need to systematically develop a comprehensive taxonomy of website atmosphere (Eroglu et al., 2001; Allagui, Lemoine 2008). No comprehensive and revised taxonomy of website elements on academic literature exist. In order to address these gaps in research literature, this study pays attention to the elements of the website atmosphere.

Therefore, the main purpose of this article is to identify elements of website atmosphere and to propose a revised taxonomy of website elements. This research paper is to undertake a systematic and comparative analysis of website atmosphere and towards revisited taxonomy of website.

This paper will extend the website atmospherics literature by specifically providing a comprehensive and revised taxonomy of website elements. First, this paper will review traditional retail atmosphere and will define the atmosphere of website. Next, elements of website will be discussed and the revised taxonomy of website elements will be proposed.

**Definition of website atmosphere**

Kotler was the first to use and define the term “atmospherics” (Turley, Milliman, 2000). Kotler (1973-1974) defined atmospherics as the conscious design of the store environment to affect consumer and enhance his purchase probability. The traditional retail environment or „atmosphere“ has been described as a set of environmental cues that affect consumer behaviour. According to Kotler (1973-1974) the atmosphere may be more influential to the purchase decision than the product itself in traditional retail atmosphere.

Traditional retail atmosphere consists of five sensory (sight, sound, scent, taste and touch) appeals. The sense of taste does not apply directly to traditional atmosphere (Kotler, 1973-1974)). The effects of atmospherics cues have received a broad research attention in traditional environment (Turley, Milliman, 2000) and examined various cues such as music, colour, scent, store design and others. However, research on website atmosphere has been limited due the newness of the topic (Dailey, 2004). A website atmosphere is comparable to a brick-and-mortar atmospheric (Dailey, 2004) and can be defined the sum of audible and visible cues (Eroglu et al., 2001).

Virtual atmosphere signifcantly differs from physical stores atmosphere and lacks some of the qualities (Eroglu et al., 2001), and obtains unique characteristics such as the availability 24 hours a day and 7 days a week and customization capabilities (Manganari, Siomkos, Rigopoulou, Vrechopoulos, 2011). E-retailers can now offer consumers partially to customize the atmosphere of website (Vrechopoulos, 2010).

Nowadays the most commonly used understanding is that the website atmosphere is a complex of various specific elements of website that affect consumer behaviour and suggested classification from the traditional perspective of store atmosphere. Hence, paralleling Manganari et al. (2009), identified website elements are classified into four groups (virtual layout and design, virtual atmospherics; virtual theatrics; virtual social presence).

**Research findings on website atmosphere**

Previous studies (Eroglu et al., 2001; 2003) divided the website atmosphere into two categories based on thier relevance for the shopping task: high-task relevant environment cues and low task relevant environment cues. High-task relevant is described as all the website descriptors (verbal or pictorial) (e.g. descriptions of the merchandise, price, terms of sale, delivery, and return policies), low task-relevant environment (e.g., colours, borders and background patterns, typestyles and fonts and etc..) means website information which is unrelated to the shopping task (Eroglu et al., 2001). Researchers provided detailed taxonomy, but do not include virtual social presence elements except webcounter.

– visual web aesthetics, navigational structure, social interactivity, but does not provide a comprehensive collection of elements.

Manganari et al. (2009) summarized 43 published empirical studies and proposed that the online store environment consists of four components:

1. Virtual layout and design;
2. Virtual atmospherics;
3. Virtual theatrics;
4. Virtual social presence.

The structure of discussion is based on four components of the website atmosphere and extends taxonomy with additional elements.

**Virtual layout and design**

*Navigational design.* The design of website navigation is very important. There are multiple ways how websites enable consumers to navigate to a desired section and view pages. According to Manganari et al. (2009) virtual layout and design component consists of three major types of layout (grid, free-form, racetrack). Website may contain of navigation options such as bars, individual hyperlinks, image maps, drop down menus/collapsible menus and search options (Taylor, England, 2006).

Navigation design of website is a key element in order to maintain consumers on the website (Allagui, Lemoine, 2008) and for the e-retailers it is needed to make their website straightforward (Taylor, England, 2006) otherwise they might lose potential consumers. Taylor, England (2006) study revealed how website content ranking and grouping can ensure straightforward access to the website content. Other study found that the perceived ease of use of the website layout influences consumers’ internal states and behaviour (Manganari et al., 2011). However, navigation element such as convenient links to move from page to page has an impact on consumer’s emotions and behaviour.

**Virtual atmospherics**

Virtual atmospherics consist of background colour, colour scheme, percentage of white space, background music, fonts, scent appeal and other elements.

*Information content and structure.* Previous research has indicated that the availability of information on website indicates improvement of the website atmosphere. In the empirical research Björk (2010) revealed that the most essential website elements are information content and structure, and pictures based on the felt level of excitement, happiness, pleasure, satisfaction, relaxation, stimulation, arousal, attention and charm. In addition, Kim, Lennon (2012) examined the effects of information amount and music on consumers’ affective and cognitive responses which in turn may affect consumer behavior. The study revealed significant effect of information on a website.

*Colours.* Colours have impact on consumer’s emotions such as pleasure and arousal, both of which have an effect on behaviour (Koo, Ju, 2010). Colours, graphics and layout of website can play an important role in order to enhance consumer shopping experience (Cai, Xu, 2011).

*Aesthetics design.* Researchers Wang et al. (2011) based on the American Heritage Dictionary of English Language defined the aesthetics as „a conception of what is artistically valid or beautiful”. Aesthetics qualities include colours, graphics, and layout (Cai, Xu, 2011). Wang et al. (2011) examined two dimensions of web aesthetics (aesthetic formality and aesthetic appeal) on psychological reactions of online consumers, in turn, on consumer’s behaviour. Results demonstrated that the website featured by high aesthetic formality combined with high appeal is not excellent for website design.

Lorenzo-Romero et al. (2013) stated that aesthetics design consists of three components (classical, expressive, and design aesthetics). Researchers tested three types of aesthetics and found that quality perceptions and buying intentions are not affected by the first impression of website if
this is based on very short exposure (one second), but a long exposure to a website is significant.

Website Brand / Personality. Manganari et al. (2009) do not introduce website brand element in his comprehensive typology of website atmosphere. Study confirmed that website brand is more important than the quality of the website (Chang, Chen, 2008) and suggested that e-retailers should focus on the image of the website.

Website personality has been defined as mental representation of a website on dimensions which are similar to and reflect the five dimensions (enthusiasm, sophistication, unpleasantness, genuineness, and solidity) of human personality (Poddar, Donthu, Wei, 2009). The study investigated that website personality influences website quality perceptions and behaviour (Poddar et al., 2009). Website with pleasant personality attracts, retains consumers, in contrast to website with unpleasant personality.

Music. Noticeably, recent studies only focused on visual web aesthetics. A growing number of websites include background music. Music is the most commonly studied in the context brick-and-mortar stores (Turley, Milliman, 2000). A number of studies have examined the effects of music in online retail context (Kim, Lennon, 2012).

Virtual theatrics

The third component of the website atmosphere is virtual theatrics, which includes the animation techniques, images, vividness and interactivity.

Image interactivity. Kim, Fiore, Lee (2007) examined differing levels of image interactivity technology (low IIT level and high IIT level). Low IIT level refers pictures that can be open to enlarged product images when clicked. High IIT level included a virtual model for trying on various product combinations.

Empirical research confirms previous findings that a higher level of IIT enhances approach responses towards e-retailer (Kim et al., 2007).

Vividness and interactivity. Vividness represents media richness. Park et al. (2008) empirical study provided evidence that product presentation (rotating vs. non-rotating) effects three types of consumer’s responses (cognitive, affective, conative). The results of study imply that the product rotation (three-dimensional (3D)) represents better experiences for website’s potential consumers. In the other research line, Shim, Lee (2011) reported that 3D virtual models significantly reduce perceived risk about four apparel attributes (silhouette, colour, texture, and fit), in contrast to 2D images.

Sheng, Joginapelly (2012) study results revealed that as levels of interactivity and vividness increased, consumer’s emotional responses increased too. The same findings were presented by Björk (2010) who stated that interactivity does not stimulate positive emotions, and it was not well developed on the website that has been analysed.

Virtual social presence

The fourth component of website atmosphere is virtual social presence. Recently social presence has been well explored in the research literature and identified as important variable in a connection between a website and consumers. This component is expanded by adding elements such as virtual community, avatars, recommendations, and communication.

Communities. Recent literature has shown that social presence is one of the most significant factors in improving instructional effectiveness and building the sense of community. Active online communities may improve consumers’ emotions (Sautter et al., 2004).

Communication. Some websites enable consumers to chat (Poddar et al., 2009). Communication refers to enabling communication between website visitors and/ or the e-retailer. Examples include opportunity to Live Consumer Support Chat, email, telephones, and online forms (Elmorshidy, 2013). The classification of communication and effects on consumer responses are not well investigated. E-retailers used various communications (emails, chat box, message boards) in order to communicate with consumers.
Recommendations. This element is extended recommendations based on web-based system or other visitors. The study Lo, Lin (2006) revealed that an adaptive Web-based system can be especially beneficial for users who do not know their real needs and/or do not know how to clearly specify their needs. Recommender system should be more influential than a recommendation source providing non-personalized information (e.g., other consumers) (Senecal, Nantel, 2004). In particular, recommendation systems can help to identify customer requirements, anticipate customer requirements, and satisfy customer requirements (Michalis, Michael, 2013).

Avatars. Research literature recognizes that avatars are important element of website atmosphere. The use of avatars on website might be source of virtual social presence (Mimoun et al., 2013) and makes the more „socially warm“ website (Allagui, Lemoine 2008) and influence consumer’s behaviour (Wang, Fodness, 2010). Two studies have shown that avatars can enhance the effectiveness of online sales (Holzwarth, Janiszewski, Neumann, 2006). It may assume that avatars may have many benefits and are needed to be investigated. Mimoun et al. (2012) based on a qualitative study, proposed that avatar may be effective, if it would improve in each step of the sale process.

2. Results

Despite of the diversity of methodologies, the majority of revised studies identified websites elements based on four components of the website atmosphere according to Manganari et al. (2009) (Table 1).

Table 1. Revisited taxonomy of website atmosphere

<table>
<thead>
<tr>
<th>Component</th>
<th>Virtual layout &amp; design</th>
<th>Virtual atmospherics</th>
<th>Virtual theatrics</th>
<th>Virtual social presence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elements</td>
<td>Grid layout</td>
<td>Background colour</td>
<td>Animation techniques</td>
<td>Web Counter</td>
</tr>
<tr>
<td></td>
<td>Free-form layout</td>
<td>Colour scheme</td>
<td>Image</td>
<td>Comments from other visitors</td>
</tr>
<tr>
<td></td>
<td>Racetrack layout</td>
<td>Percentage of white space</td>
<td>Interactivity</td>
<td>Crowding</td>
</tr>
<tr>
<td></td>
<td>Navigational design:</td>
<td>Background music</td>
<td>Vividness</td>
<td>Avatars</td>
</tr>
<tr>
<td></td>
<td>– a tree hierarchical structure, site map index, a search engine;</td>
<td>Touch Appeal (N/A)</td>
<td>Interactivity</td>
<td>Virtual communities</td>
</tr>
<tr>
<td></td>
<td>– website content ranking and grouping;</td>
<td>Information</td>
<td></td>
<td>Recomendations</td>
</tr>
<tr>
<td></td>
<td>– menu, links.</td>
<td>Aesthetics of website</td>
<td></td>
<td>Comunication</td>
</tr>
</tbody>
</table>

| Citation  | Chang, Chen (2008); Kim et al. (2009); Poddar et al. (2009); Björk (2010); Koo, Ju (2010); Wang et al. (2010); Wang et al. (2011); Kim, Lennon (2012); Lorenzo-Romero et al. (2013); Loureiro et al. (2013). | Park et al. (2005; 2008); Kim et al. (2007); Allagui, Lemoine (2008); Björk (2010); Shim, Lee (2011); Sheng, Joginapelly (2012). | Sautter et al. (2004); Holzwarth et al. (2006); Wang et al. (2007); Allagui, Lemoine (2008); Wang, Fodness (2010); Ben Mimoun et al. (2012); Mimoun (2013); Michalis, Michael (2013); Elmorshidy (2013). |

Source: adapted by the authors with reference to Manganari et al. (2009).

The component of virtual layout & design is extended by adding a navigational design element. The navigational design element may consist of a variety of elements such as a tree

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hierarchical structure, site map index, a search engine, website content ranking and grouping, menu, and links. The literature review confirmed that in order to retain online consumers the design of the website navigation is very important. Moreover, the component of virtual atmospherics consist of a background music, colour scheme, percentage of a white space and the background music are augmented by adding the information content and structure (information), aesthetics design, and website brand / personality elements. The study also underlined the role of information as the most essential element of the website (Björk, 2010). In addition, new empirical studies were found to focus on website elements such as colours and music. Thus, this study support that these elements are significant to the components of virtual atmospherics. Moreover, the current study identified that the taxonomy of the third component (virtual theatrics) which consist of animation techniques, images, vividness and interactivity elements of website are critical. Based on the literature review, images’ element is defined as the image interactivity. The results demonstrate that as levels of interactivity and vividness increase, the consumer’s emotional responses increase too. Thus, the elements of virtual theatrics do not extend but support Manganari et al. (2009) proposed typology. Finally, virtual theatrics includes the animation techniques, images, vividness and interactivity. The last component (virtual social presence) is extended by adding elements such as avatars, virtual community, recommendations, and communication. This study revealed that most current studies identified social elements being very important element of the website atmosphere, the elements which make it more „socially warm“, however the previous comprehensive taxonomy of the website atmosphere does not included elements such as avatars, virtual communities, recommendations, communication.

In summary the present study (see Table 1), the revisited taxonomy of websites elements is illustrated and adds additional knowledge to the extant knowledge of website atmosphere.

3. Discussion

Previous researchers on website atmosphere has focused on website elements classification and developed taxonomy of website elements (Eroglu et al., 2001; 2003; Sautter et al., 2004; Manganari et al., 2009), but did not propose a comprehensive taxonomy. The current study provides a wider and revised taxonomy of website elements and extends the literature of website atmospherics. The taxonomy suggests a wide range of research possibilities.

From a theoretical perspective, this study makes a key contribution to the website atmosphere. This study suggests that the taxonomy of website elements extends the design objectives for the website atmosphere and provides general guidelines for companies to develop an effective website in order to attract and retain consumers.

Finally, the research paper highlights the issues of future research. Firstly, the effect of music (Kim et al., 2009), crowding (Manganari et al., 2009), digital scent (a telematic machine) and online taste (“e-tongue“) (Manganari et al., 2011), website personality traits (Poddar et al., 2009) in the online context are not well examined and further research is strongly recommended to explore deeply. Secondly, Chang, Chen’s (2008) work found that website quality affects consumers’ trust and perceived risk, and in turn, consumers’s behaviour. However, there are many concepts in order to measure the website quality that are needed to be investigated.

Numerous online environment studies have applied the stimulus-organism-response (S-O-R) model to examine the effects of website atmosphere on consumers‘ emotional, perceptual and behavioural responses (approach-avoidance). In essence, the future study should empirically investigate a revisited taxonomy of website elements on consumer’s responses.

References

Björk, P. Atmospherics on tour operators’ websites: website features that stimulate emotional response. 


