

# An Analysis of the Online Store Atmosphere: Influence on Consumer

Jamil Bojei<sup>1</sup>, Sharifah Fauziah Syed Omar Shahabudin<sup>2</sup>

<sup>1</sup>Graduate School of Management, Universiti Putra Malaysia 43400 UPM Serdang, Selangor D.E

<sup>2</sup>Corporate Communication Executive, Urusdaftar Automotif Sdn. Bhd., Kuala Lumpur

## ABSTRACT

*E-retailing is the Internet version of classic wholesalers and retailers of goods and services. The store space is virtual. It requires strong design elements to translate the similar atmosphere effect in physical setting to virtual setting. Web is visual medium and not limited to photographs. Web sites that are informative, easy-to-navigate, attractive and in general provide a positive experience in encouraging users to take actions like making purchases. Something looks, feels and gives pleasure are just as important in technology design as function. The main objective of this study is to examine customers' perception on virtual store atmosphere and its ability to change customer's purchase intention. From the study, the results show that the atmospheric elements create virtual store ambience and experience to the customer without they themselves actually being at the premise. The influence on the perception towards the store is positive, yet they are not the strongest factors that change the consumers' purchasing decision.*

## 1.0 INTRODUCTION

Retail transactions make up the largest part of e-commerce. It is the world's biggest virtual shopping mall, which allows retailers to do their business with low cost involve, yet covering global market. But e-retailing is not just about doing business over the Internet; it is about changing the way a company doing business. There are two type of online shopping design: shopping Web site and Virtual store Web site (Birch *et al*, 2000).

In this study, focus was given to the 'Virtual Store' business environment. Virtual store are context driven and mainly a visual experience. They create customer loyalty, develop interaction and offer personalization of products. The fundamentals of good marketing and good business still apply (Yang *et al*, 2003). Consumer expected the same experience they get from physical store in the virtual store.

One of the elements that have high impact on consumer in physical business setting is store atmosphere. This study is trying to understand the influence of virtual store atmosphere in providing great shopping experience.

## 2.0 LITERATURE REVIEW

Vast development of the Internet and low cost of infrastructure has changed the shopping style. Online shopping has become part of modern lifestyle. This changes has influence marketing researchers to study and compare consumer's purchasing behavior

between Online shopping with traditional / physical shopping (Zhang, 2001).

Understanding the changes in lifestyle, Vrechopoulos (2002) investigate the emerging store layout for Internet grocery retailing. He found that consumer tries to look for familiarity of the traditional store layout in the online store setting.

Baker *et al* (2001) suggested that design is the dominant environmental component that e-shoppers experience. It is reasonable to speculate that the design of virtual stores may effects consumer's propensity to shop at the store.

### Definition of Virtual Store Atmosphere

Definition of virtual store atmosphere is very much related to its personality, experience and image that it tries to project to its consumer. Similar with that of the physical store, virtual store also have well designed buying surrounding with intention to produce specific emotions. However, in virtual store, the projected image is expected to generate trust and gain confidence in consumer. These two elements (disregarding support system) will influence consumer's purchase probability.

Virtual Store is mainly visual experience. Great design can lead to sites' preference and promote sales. Virtual store requires innovative theme and integration of support system. It gives identity and personality to the store (Wroblewski, 2002).

### Characteristics of Virtual Store Atmosphere

Virtual Store atmosphere incorporated comparable characteristics as traditional retail stores. But on the same time Internet offers capabilities similar to those of newspaper (i.e. text and graphics), radio (i.e. audio) and TV (i.e. video), all in one concise package (Breitenbach and Doren, 1998). Advancement in graphics technology allows more creativity on the Web, with developments such as animated banners on screen. New inventions allow multimedia techniques to make more sophisticated and integrated presentations in the form of video, sound, music, graphics and text. This enhanced capability not only makes visitors' experiences more fun and stimulating (Spalter, 1996) but also gives visitors the flexibility to activate only a needed part of presentation (Ghose and Dou, 1998).

In term of Virtual Store attractiveness in general, Ghose and Dou (1998) stated that site attractiveness would increase with interactive functions. Based on media richness theory, it contends that multimedia

interactive format should provide more capabilities than text, sales brochure and catalogues.

Design is the dominant environmental component in virtual store experience. Due to technical barrier such as disadvantage on time taken for downloading, risk of importing on unwanted component, memory and viruses; graphics may be more effective since visual and illustration are sought by more users (Dreze and Zufryden, 1997). Visual organization charges what consumer's see with meaning, while visual perception is often influenced by our past experiences and knowledge. By manipulating the treatment and placement of elements on the sites, it will create meaningful distinctions and sites personality (Wroblewski, 2002).

In conclusion, the characteristics of the virtual store atmosphere are very much influenced by graphical language. In developing virtual store atmosphere, graphical elements play an important role substituting the common atmospheric elements in physical setting. However, each individual interprets visual information differently and uniquely. In capturing customer attention Web designer create visual similarities and difference between objects through the use of color, size, shape and direction.

### **Influence of Atmosphere Elements in Virtual Store**

Store atmosphere effects are basically emotional states that are difficult to verbalize, are transient and therefore difficult to recall. Environmental psychologist suggested the influence of behaviors exist within the store rather than gross external behaviors such as choosing whether or not to patronize the store (Donovan and Rossiter, 1982). The ability of the atmospheric element to influence behaviors and to create an image is particularly apparent especially for service business. Before purchase the goods or services consumers commonly look for cues about the company's capabilities and quality (Berry and Clack, 1986; Shostack, 1977).

Since the fundamentals of good marketing and good business still apply in any methods of business and consumer expected the same experience they get from the physical store in the virtual store, therefore they also behave almost similarly (either in physical store or virtual store) towards any elements that attract their attention or influence their decision.

Lohse and Spiller (1998) found that virtual store layout (interface) design does affects customers' perceived convenience during the shopping experience and influence the time that consumer spend within a Web sit. Time spend is important in the event of virtual setting because possibility to go to other virtual store is just a click away. They proved that B2C store layout (interface) strongly affects traffic and sales.

Many consumers appear to prefer graphical element in navigation by simply pointing and clicking, which makes it easier for consumers to navigate a site, find what they want and link to other promotional pages. Empirical studies have shown that user-friendliness as one of most important criteria influencing their use of Web sites (Abels *et al*, 1998). Hence, consumers must be able to easily move through the site and obtain the content they seek easily and with enjoyment. Beauty, pleasure and simplicity of use are what consumer care about when it comes to technology (Norman, 2003).

### **3.0 METHODOLOGY**

*Hypotheses Development* – Theoretical arguments suggest that physical atmosphere have an emotional effect to the buyer, which will influence their purchasing behavior. Poorly designed store environment may reduce shopping pleasure and lead to the deterioration of customer's moods. Bakers' (2001) suggested that design is a dominant factor especially to virtual store. Appearance and layout of the virtual store may effects online shoppers' perceived psychic costs significantly and hence their propensity to shop at those stores. Therefore, this study propose that:

H1: As customers' perception of store atmosphere cues becomes more favorable, the probability to purchase or future patronage is high.

*Data Collection Method* – The study at hand attempts to analyze the impact of virtual store atmosphere on consumer. As such, overseeing the respondents in answering the questionnaire and create environmental stimuli, the respondents are require to view Web page of the selected virtual store (Baker, 2001; Vrechopoulos, 2002). It is the effort to design buying environments to produce specific emotional effects in the consumer that enhance consumer's purchase probability (Kotler, 1973). In achieving this objective, data will be collected through survey with self-administered questionnaires and drop-off method, where no interview will be involved. It is important for this study to give respondents less pressure and ample time to answer the questions. Respondents may require longer time to browse the store, to evaluate the graphical elements and analyze its design. Researcher will drop off the questionnaires and collect it later. This will give the respondents time allowance for a careful answering.

*Selection Of Virtual Store* – There are six (6) variables that been measured. There are color, typeface, product image, store layout, design element in navigation functions and animation. **PasarBorong.com** has met all the criteria. It is a grocery store at a reasonable price. Consumer will feel at ease when analyzing product that they familiar. In fact, they use it everyday or regularly visit this type of store in physical setting. In term of

visual, products image and information, price list, and brands are clearly presented and consumer has an option to view and choose product that they intend to purchase.

The layout is simple. It has three columns that differentiate the product listing, step-by-step registration and purchasing process and bargains section. The information is not cluttered. This is important, as this is self-administered survey. The element of animation is minimum. For the purpose of this study, it is significant, as it will take shorter period of time to download the site.

To indicate the importance of certain information, the text has been given different color. There are variations in size of font with the intention to capture consumer attention.

In term of navigation, the element of design is being measured rather than the functionality of the system. The icon used to indicate button play a meaningful role to imply its function. Clearly design button or links may help consumer browsing through the site smoothly.

*Self-Administered Questionnaire Survey* – The survey questionnaire composed of 4 sections. Section A is

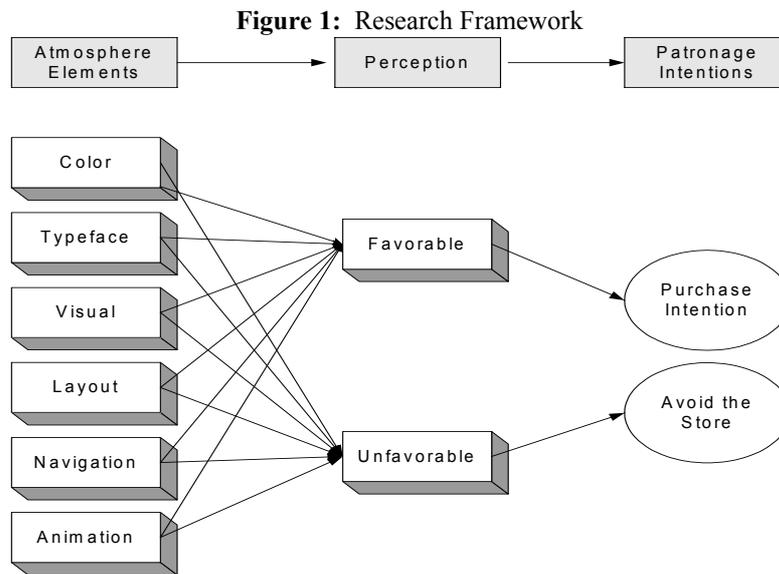
mainly to understand respondents' Internet shopping experience; Section B, was designed to measure six (6) atmospheric variables that contribute to the environment of virtual store; Section C, tested the impact of these variables on consumer which reflect their attitudes and reactions towards the virtual store and Section D cover the respondents' demographic information.

*Selection of the Sample* – Focus on Klang Valley, as it is the center of population with highest number of Internet literacy and accessibility. They possess better knowledge in Internet and become part of their lifestyle (Taylor Nelson Sofres, 2003).

*Developments of Measures* – Most measures were adopted from previous published works. Reliability was assessed using the Cronbach alpha coefficient technique. Discriminant analysis is used to distinguish between two or more predefined 'groups'.

#### 4.0 RESEARCH FRAMEWORK

The framework in Figure 1 show the relationship between atmospheric elements, which contribute to store appearance, and respondents behavior and attitude towards the store.



#### 5.0 RESULTS

Fifty percent of the respondents have made purchases from the Internet. While 90.9% has searched for information on any type of products they like to purchase on the Internet. 65.9% has made some kind of monetary transactions, like pay bills, online. This indicates that respondents for this survey are familiar with the Internet and Internet transaction, which qualifies them for the analysis of this survey.

##### Atmosphere Elements

There are fifteen statements, measuring six variables that contribute to the environment of virtual store. This section consists of two types of statements; positive and negative statements. Out of fifteen variables, seven are positive statements on store environments. Reliability test on positive statements is high with  $\alpha = 0.8304$ . While negative statements also conclude high reliability at  $\alpha = 0.7011$ . These results indicate that these two statements are reliable to measure the atmospheric elements in virtual store.

**Table 1: Atmospheric Elements**

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Neither Agree nor Disagree</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
<b>Fun Animation</b>	11.4%	38.6%	27.3%	15.9%	6.8%
<b>Easy-to-understand layout</b>	6.8%	70.5%	13.6%	6.8%	2.3%
<b>Good font choice</b>	0	34.1%	45.5%	18.2%	2.3%
<b>Well organized store</b>	4.5%	59.1%	27.3%	9.1%	0
<b>Pleasing color scheme</b>	2.3%	52.3%	29.5%	13.6%	2.3%
<b>Fresh and relaxing green color</b>	9.1%	54.5%	22.7%	9.1%	4.5%
<b>Attention catching different color</b>	13.6%	52.3%	20.5%	13.6%	0
<b>Boring Store Color</b>	6.8%	18.2%	11.4%	59.1%	4.5%
<b>Font too small</b>	18.2%	45.5%	20.5%	15.9%	0
<b>Dislikes color scheme</b>	13.6%	15.9%	31.8%	34.1%	4.5%
<b>Confusing layout</b>	9.1%	9.1%	20.5%	54.4%	6.8%
<b>Same color links</b>	6.8%	34.1%	20.5%	36.4%	2.3%
<b>Don't know which button to press</b>	2.3%	13.6%	9.1%	50.0%	25.0%
<b>Small product images</b>	6.8%	40.9%	29.5%	20.5%	2.3%
<b>Blinks distracts concentration</b>	2.3%	29.5%	34.1%	31.8%	2.3%

Source: Survey

When asked about their general feeling of the selected virtual store, majority of the respondents either agree or strongly agree that the selected web site is a well-organized online store, has a layout that is easy to understand, and employs a pleasing and attention catching color scheme with the use of green and other contrasting colors. On the other hand, many respondents feel that the font size and product images used are too small and they are indifferent towards the animation used in this web site.

**Perception**

Many respondents share the same feeling of liking or fondness towards the store and will continue to visit the web site. Majority agrees with the statement that this is the kind of virtual store they are looking for. However, the likelihood that they will shop at this online store is doubtful as the distributions between their answers are about the same. In general, majority of the respondents is favorable towards the virtual store.

**Table 2: Reaction towards Virtual Store**

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Neither Agree nor Disagree</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
<b>Likelihood to shop</b>	0	36.4%	29.5%	27.3%	6.8%
<b>Dislikes store setting</b>	4.5%	6.8%	27.3%	61.4%	0
<b>Type of store look for</b>	4.5%	45.5%	29.5%	13.6%	6.8%
<b>Will not purchase anything</b>	6.8%	11.4%	27.3%	50.0%	4.5%
<b>Feels like browsing in real shop</b>	4.5%	20.5%	27.3%	36.4%	11.4%
<b>Will avoid visiting web site</b>	9.1%	2.3%	27.3%	47.7%	13.6%
<b>Like store setting</b>	0	50.0%	40.9%	4.5%	4.5%
<b>No real shop feeling</b>	9.1%	22.7%	36.4%	22.7%	9.1%
<b>Favorable</b>	4.5%	56.8%	27.3%	6.8%	4.5%

Source: Survey

**Patronage Intention**

Boring store color, same color links, blinks distracts concentrations, confusing layout, small images and font too small, have the smallest Wilks's lambda as compare to others. However, statement on 'boring store's color' is not significant with 0.428, as compare to others with smaller Wilks's lambda than register .000. Another color element, such as 'pleasing color scheme' is significant ( $\lambda=0.902$ ) to the discriminant function.

These six statements represent six atmospheric elements – color, typeface, layout, navigation, product image and animation. This indicates that all atmospheric elements that have been measured in this study are generally significant in creating store atmosphere.

Earlier finding, where 61.3% of respondents either agrees or strongly agrees on their general feeling

towards the selected virtual store reflect the above relationship. The atmospheric elements have strong influence in respondents' perceptions toward the virtual store.

The results suggested that all independent variables are significant and show relatively importance to virtual store atmosphere. Virtual store that have animation, layout that makes it easy to understand the flow of information, well organized merchandise, colors that differentiate the functions, simple blinks and pop-up icons to indicates important information, pleasing and relaxing color, influence customers' positive perceptions towards the virtual store. While virtual store that have boring and dull color, small font and product size, confusing layout and links, gives the opposites perception towards the store.

However, in relation to purchase intention, **favorableness and positive perception are not the absolute factors**. Table 3, shows only 91 respondents will purchase while 163 respondents will not purchase. And this predicted group membership is correctly classified with 84.1% of original group cases. In this situation, hypothesis (H1) that proposing when customers' perception towards store atmosphere becomes more favorable, the highly probability of them to purchase or future patronage, cannot be accepted. Atmospheric elements do create favorable influence on store attractiveness but it is not the determinant factors that instigate purchasing decision.

**Table 3:** Classification Results

	Predicted Group Membership		Total
	Will Purchase	Will Not Purchase	
<b>Will Purchase (%)</b>	91 (81.3)	21 (18.8)	112 (100.0)
<b>Will Not Purchase (%)</b>	28 (14.3)	163 (85.7)	196 (100.0)

a. 84.1% of original grouped cases correctly classified.

Source: Survey

**Implications**

Online customers often lack of time and patience that it takes to read the instruction or to learn how something works. Customers always scan the pages, pick up on a few visual clues, develop mental model of how the virtual store works and be on their way (Wroblewski, 2002). As a result attractiveness of the store or visual contrast may hold customers attention and retention.

From the findings 61.3% of respondents either agree or strongly agree with the atmospheric elements, which reflect the favorableness of the virtual store atmosphere. The response can be generalized as the relevant variables that retailers or Web designer should consider in designing any virtual store. The study is not exclusively evaluating the attractiveness and impact of Pasarborong.com on customer. The selected virtual store is just an atmosphere stimulator.

**Marketing Implications**

E-retailing is similar to service marketing, where customer has lack of company's information or product search attributes that they can rely on. Servicescape and physical evidence are the only cues that customer receive and they translate it as a proof to reflect high quality product or trustworthiness' of the company (Lovelock, 2002). The attractiveness and positive perception of the virtual store is the only tangible elements that customers have. Although it may not have major influence in changing customers' purchasing decision but it create differential advantage (Kotler, 1973) to the virtual store amongst its competitors.

**Implications to E-Retailers**

The possible implications for retailers who want to attract and give first impression to the customer are that they should consider the tangible elements, which in virtual store setting are the design and atmospheric factors, as these capture customers' attention and retention. The correct emotional combination of attractiveness and pleasantness create by store atmosphere can enhance customer confidence and positive perception towards the store. Retailers should avoid creating complicated and abstract virtual store, where require special program or skill to browse the store. Unfamiliar icon makes customers confuse. Although the icon or links are simple but those new design or element didn't speak the function.

**6.0 RECOMMENDATIONS FOR FUTURE RESEARCH**

The findings have raised some questions that deserve future research. The research framework adopted in this study mainly focus on respondent's opinion on atmospheric elements, which lead to their perception towards the store and impact on their purchasing behavior. The path of investigation only focuses on graphical elements of the variables. The impact is based on virtual store attractiveness. In enhancing the completeness of conceptual framework, further research should include the functionality of those variables measured, especially on layout and navigation. In actual setting, complicated and confusing layout and navigation influence consumer behavior.

Multiple business sector or virtual store should be measured simultaneously. Cross measuring on advantages or disadvantages of each virtual store will provide accurate findings. Not all virtual stores have all the criteria. More over similar variables on different virtual stores may give different impact on consumer. Again, in measuring purchasing behavior, real life situation plays and important factor. Consumer may change to other virtual store once the environment of that store displeasing them. Multiple options of virtual store can help respondents indicate which stores that they have high purchase intention and which one that they may want to avoid.

Capturing respondents in real life situation while they do the transaction or purchasing will give absolute findings. Measurement of emotional states must occur in the actual retail setting and as close to the time of shopping as possible (Donovan and Rossiter, 1982). Induced emotions are transient. Real-purchasing-activity measures produce stronger results than measures of recalled or imagined situations.

Consumer lifestyle should be taken into consideration. Certain generation or group of consumer are very much expose to Internet and online shopping. This group has better knowledge on limitation and benefits of online shopping. Their responses are less influence by trust, company's capability, price and procedure. By having a qualifying question to check on their lifestyle may also help counter check the given answers. Response that indicates high purchase potential may not match with their lifestyle.

## 7.0 CONCLUSION

Atmospheric elements create virtual store ambience and experience to the customer without actually being there. It influences positive perception towards the store. And yet, these are not the strongest factors in online shopping characteristics that are capable of changing customers' purchasing decision.

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