AicE-Bs 2011 Famagusta

Asia Pacific International Conference on Environment-Behaviour Studies, Salamis Bay Conti Resort Hotel, Famagusta, North Cyprus, 7-9 December 2011

The Impact of Atmospheric Stimuli of Stores on Human Behavior

Astrid Kusumowidagdo[*], Agus Sachari & Pribadi Widodo

Faculty of Art and Design- Bandung Institute of Technology, Ganesha 10, Bandung, 40132, Indonesia

Abstract

This study of how the atmospheric stimuli of stores can affect human behavior (of customers and employees) was divided into two stages. In the first stage, an exploratory research design was used to identify the attributes of the exogenous variables, namely the store exterior, store interior, interior layout, interior displays and human variables. The attributes obtained were then used to conduct the second stage of study using path analysis. The effect of the store on the behavior of customers was determined by the general interior and interior display, while the behavior of the employees was determined by the interior, the interior lay out and the interior display.

1. The dynamic condition of retail growth in Indonesia

With an improvement of the Indonesian economy in the first quarter of 2011, retail growth is predicted to be closer to its normal rate. Therefore, retail businesses must be innovative to respond such a dynamic situation. Although the products to be sold are definitely a central issue, the experience of purchasing

---

[*] Corresponding author. Tel.: +62 22 2501214; Fax: +62 22 2534162
E-mail address: astrid@ciputra.ac.id

them must also be made enjoyable. Based on the research by AC Nielsen, 93% of Indonesian customers consider shopping centres as their place of recreation. This type of customer is certain to shop more often if new experiences are created by the retailer by playing on the human senses (such as visual, aural, olfactory and texture). This study aims to identify the effect of the manipulation of a store's atmosphere on the behavior of both the customers and the store's employees.

2. The correlation between store atmosphere design and in-store behavior

Store atmosphere design is not only closely related to a store's image, it also can affect the emotional state of buyers as they decide to enter the store during the first stage. Such an emotional state can create two dominant feelings: a pleasant feeling and the feeling of having one's desire encouraged. Additionally, the atmospheric stimuli have effects not only on customers, but also on employees.

2.1 S-O-R Model from Mehrabian-Russel (1978)

This classic study by Mehrabian-Russel (M-R) is often used as reference by other researchers of environmental behavior. In Stimuli (S)- Organism (O)- Response (R), it is assumed that an environment filled with Stimuli (S/ Stimuli) can cause a change to the consumer's organismic state (internal state-O/ Organism) and can also affect the consumer's behavior (R/ Response).
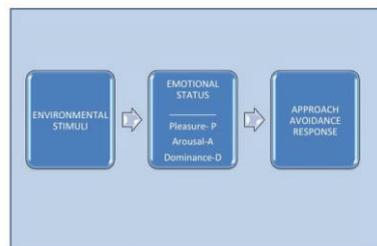

Fig. 1 The Mehrabian-Russel Model (1978)

There is little difference between the studies by Mehrabian and Russel and the subsequent studies by Donovan and Rossiter (1982). In the M-R model, the organism variable can be detected from three dimensions. Those three dimensions are pleasure, arousal, and dominance. In the model by Donovan and Rossiter, the dominance factor is eliminated. Such approaching and avoiding behavior has four detailed processes in relation to retail. The first process of approaching and avoiding a store area comes from the desire of the customer on a basic level. The second process of approaching and avoiding is to search and explore the store. The third is to interact with the employees. The final process is dependent on the store's performance and the customer's satisfaction with respect to repurchase frequency and the amount of money spent during the duration of the visit to the store.

2.2 Turley and Milliman Research

Turley and Milliman (2004) refer to the classic M-R research model (Mehrabian and Russel, 1978) that analyzes the Stimuli (S)- Organism (O)- Response (R) model while also incorporating customer behavior research performed by many additional experts, including Donovan and Rositter (1982).
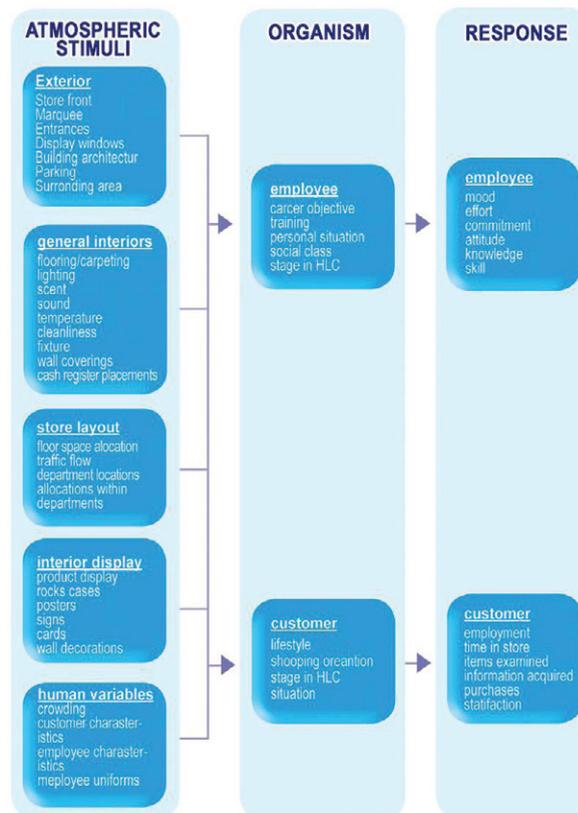

Fig. 2. The Turley & Milliman Model. Source: Turley & Milliman, 2004.

In this study, a stimulus of store atmosphere (Atmospheric Stimuli/ S) constitutes five variables taken from Berman and Evans research on a store's physical variables as well as well as one human variable. These five variables affect the emotional intensity (Organism/ O) of the employees and the customers. Furthermore, this emotional intensity affects the behavioral response of the customers.

2.3 A store's atmosphere that improves quality of life

- Store atmosphere that provides recreation to the customers

According to Kusumowidagdo (2010), customers' shopping has several purposes at a given store in accord with personal and social motivations. Certain personal motivations include: shopping for personal and family needs, getting away from routine, and learning of new trends. Meanwhile, a social motivation is to socialize. These various motivations are played upon by the retailer to create an environment that is theatrical enough to provide the customers with stimuli. By creating a comfortable environment, a store encourages customers to relax, refreshing both mind and body. Thus, a store's atmosphere indirectly

affects the quality of emotion of the customers that can then have a positive effect on the rhythm of their daily lives.

- A store atmosphere that provides the employees with job satisfaction will result in an improvement in their quality of life.

According to Bell et al. (1990) a good environment will not only improve productivity but will also affect employee satisfaction at work. Satisfied employees are normally loyal to the company and perform well. Other factors also have effects on employee satisfaction, such as: job security, salary, and colleagues (Crouch & Nimran, 1989; Herzberg, Mausner & Syderman, 1959 in Bell et al.). When the quality of the work environment is below the standard, there will be greater employee dissatisfaction and discomfort at work. A good environment will bring with it higher productivity (with respect to work flow, safety and health, as well as job satisfaction).

In this study, the store is the workplace of store employees. A store's atmospheric variables include: the store exterior, store interior, and the interior layout and interior display are used as parameters within which human variables are included. By providing these parameters, employers hope that the store employees can be motivated to be more productive and satisfied at work, and finally experience an improvement in their quality of life. A comfortable shopping environment will support the needs of both those customers whose motivation is to shop and of those whose motivation is to have a recreational experience capable of indirectly improving their quality of life.

The hypothesis of this study states that store atmosphere will act as stimuli for the human senses. The stimuli will influence customers who use shopping as a recreational activity and motivate the employees to work more efficiently. A exciting environment will support the activities within.

3. Research Methodology

This study used two subjects of study with two different timeframes. There were two subjects of study therein because the time frame used for this study was different between the two subjects.

3.1 Customers as the subjects of study

The first study was located at one of the popular department stores in Surabaya, Indonesia, with the customers as the subjects. This first study, in 2009, involved 107 persons. The study was divided into two stages: the first stage was an exploratory research design, and the second stage was a path analysis. The first stage was performed to identify the attributes related to the preferences of the consumers. The exploration or identification of attributes was performed by interview, according to the attributes of atmospheric stimuli (Turley and Milliman, 2000). The identified attributes were then used to conduct the second stage of study by means of a path analysis, for which the endogenous variables were the organism (the customers) and the response (of the customers). Atmospheric stimuli factors, on the other hand, functioned as exogenous variables. The five stimulating atmosphere variables were: the store exterior, the store interior, the interior layout, interior displays and human variables. These five parameters were used in a questionnaire given to customers as a random sampling.

3.2 Employees as the subjects of study

The same department store as the research above was used for the location of the study with the employees as the subjects, which was carried out in 2011. This study was also divided into

two stages: the first stage was an exploratory research design, and the second stage was a path analysis. The first stage was performed to identify the attributes related to the preferences of the employees. The exploration or identification of attributes was performed by interview, according to the attributes of atmospheric stimuli (Turley and Milliman, 2000). The identified attributes were then used to conduct the second stage of study by means of a path analysis, for which the endogenous variables are the organism (the employees) and the response (of the employees). Atmospheric stimuli factors, in contrast, function as exogenous variables. There were five atmospheric stimuli variables: the store exterior, store interior, interior layout, interior displays and human variables. These five parameters were used in a questionnaire given to employees. Further questions were given to 50 employees regarding, for example, motivation and household life cycle. In addition to the questionnaire, this research obtained further data from sources such as the store manager and the extant literature.
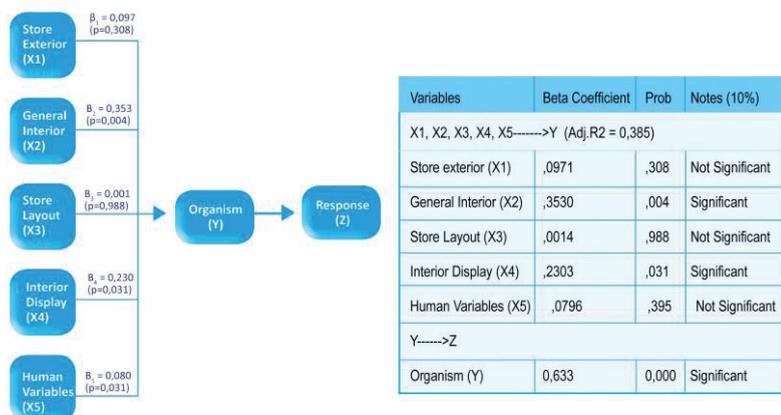
4. The result

The following were the results of the study:

4.1   The effect of a store's atmospheric stimuli on the in-store behavior of customers in the department store

There were 107 respondents who had certain characteristics according to sex, occupation and expenditure. There were 66% female and 34 % male respondents. The majority of respondents were 16-27 years old (54.21%). Forty-five percent were students and university students, 26% were entrepreneurs, and 25% were private employees or worked in other professions. Thirty percent of the respondents spent IDR 500 thousand - 1 million, 28% of the respondents spent more than IDR 5 million and others' expenditures varied.

Atmospheric stimuli had an effect on all 107 of the respondents, and therefore on the response of in-store behavior of customers in this study. The effect of atmospheric stimuli was stated to have a determining coefficient as high as 38.5% on the organic variable. This large effect could be explained as a part of additional elements of the retail mix due to atmospheric stimuli. Factors beyond that 38.5% also affected in-store shopping behavior. From the previously mentioned five variables of atmospheric stimuli, only two variables were found to be significant: general interior and interior display.

Fig. 3 (a) path analysis of atmospheric stimuli of customer behavior (b) path analysis table of customer behavior

Variables	Beta Coefficient	Prob	Notes (10%)
X1, X2, X3, X4, X5------->Y (Adj.R2 = 0,385)			
Store exterior (X1)	,0971	,308	Not Significant
General Interior (X2)	,3530	,004	Significant
Store Layout (X3)	,0014	,988	Not Significant
Interior Display (X4)	,2303	,031	Significant
Human Variables (X5)	,0796	,395	Not Significant
Y------>Z			
Organism (Y)	0,633	0,000	Significant

A correlation between organism and response of customers was proven. The positive emotional status was determined by the store's atmosphere that could promote a positive lifestyle for the customers. Store design was able to lead the customers to the shop. The act of shopping was initiated by looking for information, demonstrated by variability in the searching process, and included shopping, trying on the merchandise/items, and after -sales service. A positive emotional status affected the shopping response of customers, as they felt comfortable in the store and spent more time viewing the variety of products.

4.2 The effect of store atmospheric stimuli on the in-store behavior of employees at the department store

The questionnaire revealed that the employees of the department store were mostly female. The age of the department store employees was mostly between 17 - 22 years old, and most of them were senior high school graduates and unmarried. They spent IDR 500, 000 to IDR 1, 000,000 and had been working for 1 to 10 months. Most employees had been trained, and their greatest motivation for work was to earn money to put toward their living costs.

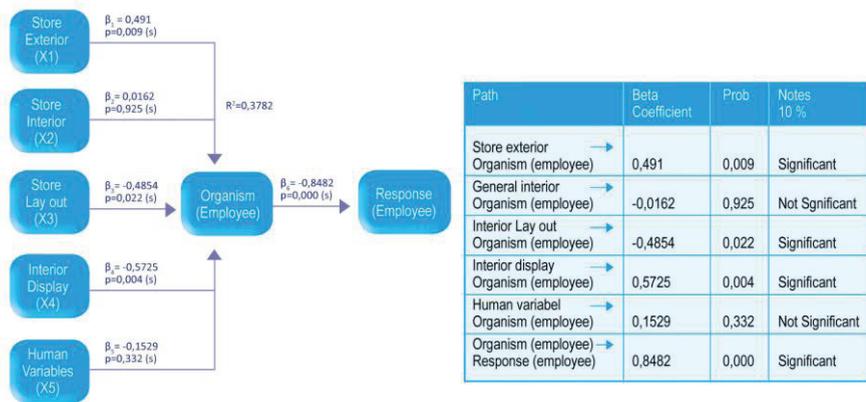| Path	Beta Coefficient	Prob	Notes 10 %
Store exterior → Organism (employee)	0,491	0,009	Significant
General interior → Organism (employee)	-0,0162	0,925	Not Sgnificant
Interior Lay out → Organism (employee)	-0,4854	0,022	Significant
Interior display → Organism (employee)	0,5725	0,004	Significant
Human variabel → Organism (employee)	0,1529	0,332	Not Significant
Organism (employee) → Response (employee)	0,8482	0,000	Significant

Fig. 4 (a) path analysis of atmospheric stimuli on employee behavior (b) path analysis table of atmospheric stimuli on employee behavior

The employee response to the store exterior was more attractive store display, attractive window display, clear location of entrance gate, visibility store signboard. The store was easy see from the corridor and its unique design could improve the conductively of the work environment by as much as 49.1%. An attractive interior display, display design (its shape and color), unique shelving, shelving display and arrangement, various product arrangements on mannequins, sale labels, and attractively written copy are able create a pleasant atmosphere that is more conducive to work. Interior display was not a significant variable, as it was not directly related to sales work on-site, and the human variables were stated to have no effect on the behavior of employees. Finally, the store exterior, store interior, interior layout, interior display, and human variables collectively had an effect on the organism (the employees), by as much as 37.82%. Finally, the organism (the employees' internal emotional status) had a further effect on employee response. The error probability value of employee path analysis on employee response was < 0.001. This result indicated that the internal emotional status of employees was affected

by the stimuli. This finding indicated that in a store with an atmosphere conducive to work, a room interior that provided a comfortable workplace could improve the desire of employees to provide their maximum service, according to the vision of company.

5. Conclusion

Atmospheric stimuli have a considerable effect on human behavior. The result of this study indicated support of 28 studies performed previously (Turley and Milliman, 2000). The dependence level of 38.5%, meant that there was still another factors beyond the store atmospheric stimuli, which was the attractive marketing and location power of the department store used in the study. In a previous study, Kusumowidagdo (2005) found that four variables of store design affected shopping behavior. The most significant of these four variables to this study were interior display and store interior. Here, interior display was indicated to be a factor that must be taken into account by the retailers. In addition, a study conducted by Kusumowidagdo (2005) at a fashion boutique with a high level of stimulating atmosphere, reported a dependency that reached 82.5%. Additionally, according to Kotler (1973), a store's atmosphere should be adjusted to the product. Furthermore, there were four effects of atmospheric stimuli on the behavior of employees. First, there was a simultaneous effect of the store's exterior, interior, interior layout, interior display and human variables. Second, there was a partial effect of the store's exterior, interior layout, interior display. Third, there was no partial effect of the store's interior and human variables on the organism (the employees). Fourth, there was an employee effect on employee response. The organism factor (the employees) had a further effect on the response (of the employees) which means that a store's atmosphere that was conducive to work contributed to the employees' ability to provide their maximum service, and it created a convenient for work environment.

References

Barr, Vilma and Charles Broudy, AIA. (1984). *Designing To Sell*. New Jersey: McGraw Hill

Bell et.all. (2005) *Environmental Psychology,* East Sussex: Psychology Press.

Berman, Barry & Evans, Joel. (2009). *Retail Management: A Strategic Approach*. New Jersey: Prentice Hall.

Bitner, M.J.(1990). Evaluating Service Encounters: te Effects of Physical Suroundings and Employee Responses. *Journal Of Marketing*, 56(2), 57-71

Bitner. M.J.(1992(. Serviscapes: The Impact of Physical Surounding on Customers and Employees. *Journal of Marketing* 56 (4): 57-51.

Donovan., Robert J. & Johan Rossiter.(1982). Store Atmosphere. An Environmental Psycology Approach. *Jounal of Retailing,*, 58 (Spring):34-57.

Kusumowidagdo, Astrid (2005) *Analisis pengaruh persepsi atas variabel-variabel store atmosphere terhadap store choice pada pengunjung fashion retail di Supermal Pakuwon Indah Surabaya*. Unpublished Thesis. Master of Management Program, Postgraduate Study Airlangga University, Surabaya.

Kusumowidagdo , Astrid(2010). *Desain Ritel*. Jakarta: Gramedia Pustaka Utama.

Kotler, P.(1973). Atmospherics as a Marketing Tool. *Jounal of Retailing*, 49 (4), 48-64.

Levy, Michael & Weitz, Barton (2004). *Retailing Management*., New York: McGRaw Hill / Irwin

Marketing Mix Magazine, 07/IX/Juli 2009.

Mehrabian, Albert and Russel, James. (1974). *An Approach to Environmental Psychology*. Cambridge: MIT, Press.

Turley., L.W & Milliman, Ronald (2000). Atmospheric Effect on Shopping Behaviour: A Review of Experimental Evidence. *Journal of Business Research*.49: 193-211.