

Available online at www.sciencedirect.com**ScienceDirect**

Procedia - Social and Behavioral Sciences 130 (2014) 461 – 468

Procedia
Social and Behavioral Sciences

INCOMaR 2013

Comparison of Stimulus-Organism-Response Framework between International and Local Retailer

Mei Teh Goi^{*}, Vigneswari Kalidas, Muhammad Zeeshan*Infrastructure University Kuala Lumpur, Unipark Suria, Jalan Ikram-Uniten, 43000 Kajang, Malaysia*

Abstract

The popularity of coffee drinking in Malaysia has attracted a lot of local and international retailers to invest in a specialist coffee-house chain. This study aims to compare Stimulus-Organism-Response (SOR) model between international and local coffee-house chain. A consumer intercept survey was conducted to collect 281 usable and valid data from Starbuck and Old Town coffee-house chain. A t-test and Structure Equation Model was performed to analyse the data. The results show that there is a difference between international and local specialist coffee-house store in terms of stimulus, organism, and response. The SOR model confirmed that stimulus strongly influences organism and response. Implications are suggested to the local specialist coffee-house for successful businesses.

© 2014 The Authors. Published by Elsevier Ltd. Open access under [CC BY-NC-ND license](https://creativecommons.org/licenses/by-nc-nd/4.0/).
Selection and peer-review under responsibility of the Organizing Committee of INCOMaR 2013.

Keywords: stimulus, organism, response, retailing

1. Introduction

The coffee drinking culture becomes more feasible in Malaysia which attracts a big number of specialist coffee retailers to invest in the store environment. In year 2011, the coffee sales were RM37.28 million and are projected to increase to RM42.90 for the year 2016 (BMI, 2012). BMI (2012) reported that Malaysia's café culture boom is likely to slow down marginally, but the customers are still searching for premium coffee products and brands. In a competitive environment, local coffee-house has to put in a lot of efforts to create a unique store environment to attract patrons.

Old Town White Coffee coffee-house has established itself as one of the largest operators of café chain in Malaysia with the total revenue of RM255,133 Million (Insage.com, 2011).

^{*} Corresponding author. Tel.: +6-038-926-6993; fax: +6-038-734-1021.
E-mail address: goimt@iukl.edu.my

The competition is getting harder with the specialist coffee-house that has international brand such as Starbuck and Coffee Bean increasing their investment in Malaysia. Starbucks, the largest coffeehouse in the world, entered into the Malaysian market in 1998. In year 2013, Starbuck has 129 stores operating around Malaysia (Starbuck.com, 2013) and Old Town White Coffee, a Malaysian local coffee-house, has franchised 224 stores (Oldtown.com, 2013). The competition between the international and local coffee-house is getting tougher. Despite these phenomena, studies to examine the difference between international and local retailing model that may influence consumers' behavior are lacking.

Past literature has suggested that Mehrabian and Russell affect model (Baker et al., 1992; Vieira, 2013) can be adopted to understand the effect of environments on customer behavior. Most research in retailing had adopted Mehrabian and Ruseell affect model and introduced Stimulus-Organism-Response (SOR) model that requires a stimulus, a set of mediating variables, and behavioral responses (Spies et al., 1997; Turley and Milliman, 2000; Yoo et al., 1998; Vieira, 2013). The model indicated that the environment created (S - Stimulus) can influence the customer mood (O - Organism) that evokes behavior response (R - Response). Although a lot of research had adopted SOR model in retailing, the results are inconsistent and no general model has been introduced. Past literature has suggested that customers who experience the environments might provide varied responses to the environment (Rosenbaum and Montoya, 2007).

The SOR model explains the factors that contribute to retailers' success. However, Bhardwaj et al. (2008) claimed that the environment elements in service may vary across cultures. With customers coming from different cultural backgrounds in Malaysia, a unique SOR model might be needed to assist service providers. Besides, the SOR model might contribute to deeper knowledge on why and how consumers select and are loyal to a retailer. Bonnin and Goudey (2012) indicated that very little has been published about the effects of environment on customers in the service industry. Most of the past literature had reviewed the full SOR model as conceptual paper (Fiore and Kim, 2007; Lin, 2004;), lack of study are empirical paper had been conducted for the full SOR model (Walsh et al., 2011). Based on Walsh et al. (2011) suggestion, this study aims to fill the gap to investigate a full SOR model that focuses on a specific service industry. Furthermore, Kim and Moon (2009) suggested that the type and theme of restaurant customers visit influences revisit intention. This study further investigates whether the ownership of coffee-house shows differences in terms of stimulus, organism, and response.

2. Literature Review

SOR model consists of stimulus as an independent variable, organism as mediator, and response as the dependent variable (Spies et al., 1997; Turley and Milliman, 2000; Yoo et al., 1998; Vieira, 2013). Most past literature agree on the three basic variables, except for Daunt and Harris, 2012), Lin (2004), and Wond et al (2012). The dimensions of each variable are varied among the past literature (Table 1). For that reason, Turley and Milliman (2000) had reviewed literature from the year 1975 to 1997 on the effect of atmosphere on buying behavior. Turley and Milliman (2000) had suggested a need to examine the atmosphere that affects customers' response. This study further reviews the past literature after the year 1997 that relates to the adaptation of the SOR model in service industries (e.g: Daunt and Harris, 2012; Dong and Siu, 2013; Kim and Moon, 2009; Lam et al. 2011; Walsh et al. 2011). Although a number of studies have been conducted on the adaptation of the SOR model in the service industries, scant research has focused on specific one industry service. Based on the Table 1, this study developed a full framework as shown in Figure 1.

The influenced of Mehrabian and Russell affect model had never been denied by past literature. A lot of research had highlighted the strategies to design a stimulus in retail and service industry, but little is known about how to design a stimulus to enhance the consumer experience (Bhardwaj et al, 2008). Vieira (2013) claimed that a lot of findings related to stimuli are insufficient to provide a detailed understanding of which are the atmospheres' cue effects on shopping behavior. Daunt and Harris (2012), Lin (2004), and Wong et al. (2012) indicated that stimulus directly influence customers' response.

Table 1: Summary of SOR Model

Citation	Industry	Stimulus	Organism	Response
Yoo et al (1998)	Retailing	Product Assortment Value of Merchandise Salesperson Service After Sale Service Facilities Atmosphere Store Location	Positive Emotions Negative Emotions	Store Attitudes
Turley and Milliman (2000)	Review Past Literature	Exterior General Interior Store Layout Interior Displays Human Variables	Employees Customers	Employees Customers
Lin (2004)	Review	Visual cues Auditory cues Olfactory Cues	-	Emotional response Cognition Behavioral Shopping behavior
Kaltcheva and Weitz (2006)	Experiment, participants view computer screens	Environment characteristics	Arousal Pleasantness	Shopping behavior
Fiore and Kim (2007)	Literature	Ambient cues Design cues Social cues	Cognition Consciousness Affect Emotion	Actual resource expenditure Perceived resource expenditure Behavioral intentions Composite measures Revisit Intention
Kim and Moon (2009)	Restaurant	Facility Aesthetics Layout Electric Equipment Seating Comfort Ambient conditions	Pleasure-feeling Perceived Service Quality	Revisit Intention
Lam et al. (2011)	Casino	Ambience Navigation Seating Comfort Interior décor Cleanliness	Customer Satisfaction Cognitive Affective	Desire to Stay Intention to revisit
Walsh et al. (2011)	Coffee Shops	In-store music In-store aroma Merchandise quality Service quality Price	Emotions (Arousal, Pleasure)	Outcome Store satisfaction Store loyalty
Daunt and Harris (2012)	Hospitality	Physical Servicescape Social Servicescape	-	Customer disaffection (Inequity, Dissatisfaction)
Wong, et al. (2012)	Shopping mall	Mall/store quality Quality of merchandise Convenience Enhancements Price orientation	-	Shopping enjoyment
Dong and Siu (2013)	Theme park visitors	Substantive staging (background, functional) Communicative Staging (Employee behavior, employee image, cultural, atmospherics)	Service experience Evaluation	Experience Intensification Experience Extension
Vieira (2013)	Past literature review	The Environment Characteristic	Emotional Pleasure Arousal Dominance	Shopping Behavior

H1: The better the stimulus, the better the response of customers toward the coffee-house.

Past literature indicated that the stimulus can influence customers’ organism (Dong and Siu, 2013; Fiore and Kim, 2007; Kaltcheva and Weitz, 2006; Kim and Moon, 2007; Turley and Milliman, 2000; Lam et al., 2011; Walsh et al., 2011; Yoo et al., 1998; Vieira, 2013).

H2: The better the stimulus, the better the organism of customers toward the coffee-house.

Emotion had been used widely as the mediator between stimulus and response by past literature. Past literature had introduced two additional organism variables, namely mood (Furnham and Milner, 2013) and experience (Dong and Siu, 2013). Most of the past literature indicated that organism influence customers’ response (Dong and Siu, 2013; Fiore and Kim, 2007; Kaltcheva and Weitz, 2006; Kim and Moon, 2009; Turley and Milliman, 2000; Lam et al., 2011; Yoo et al, 1998; Vieira, 2013; Walsh et al., 2011).

H3: The better the organism, the better the response of customers toward the coffee-house.

Furthermore, Kim and Moon (2009) indicated that customers respond in different ways to the type of restaurant. Therefore this study hypothesizes that:

H4: There is a significant difference of stimulus, organism, and response between international and local coffee-house.

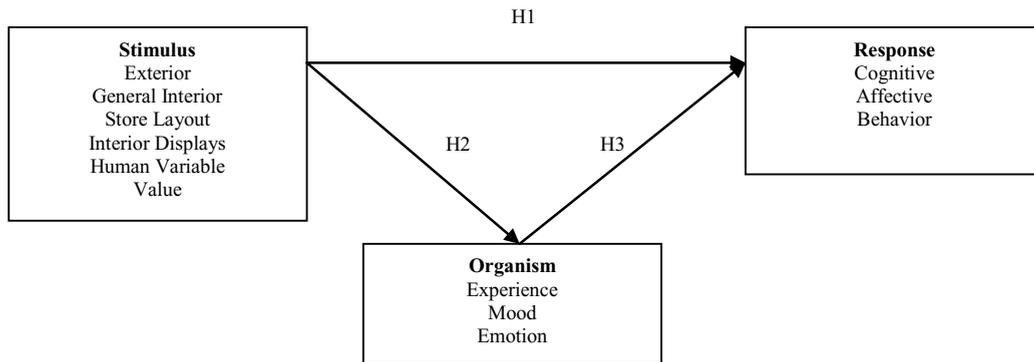


Figure 1: Research Framework

3. Methodology

A total of 300 surveys were distributed to the customers of Starbuck and Old Town White Coffee. This exclusion is based on the suggestion by Malhotra’s (2002). The customers were selected because they are directly involved in

the service operation and are knowledgeable with the subject under study. A consumer intercept survey was conducted at Starbuck and Old Town White Coffee retail chains. Out of 300 questionnaires distributed, 281 (93.67%) were usable and valid for analyses while 19 have to be dropped due to incomplete response. The usable questionnaires obtained were above the acceptable response rate of 70% as suggested by past literature.

The instrument was developed based on previous studies, which consists of organizational climate, intention to leave, and job satisfaction. A questionnaire was developed based on past literature, the stimulus consists of 39 items (Daunt and Harris, 2012; Dong and Siu, 2013; Kim and Moon, 2009; Lam et al., 2011; Lin, 2004; Turley and Miliman, 2000; Walsh et al., 2011; Wong et al., 2012; Yoo et al., 1998), the organism consists of 16 items (Bambauer-Sachese and Gierl, 2009; Kim and Moon, 2009; Peterson and Sauber (as cited in Kim and Mattila, 2010); Rose et al., 2012; Walsh et al., 2011), and the response consists of 17 items (Bruggen et al., 2011). A five-point Likert scale ranging from (1) strongly disagree to (5) strongly agree was used.

The results of the reliability test show Cronbach's alpha for dimensions of organizational climate that ranged from 0.62 to 0.89 (Table 2). The Confirmation Factor Analysis (CFA) was performed to check the validity of the instrument. All items were loaded above 0.50 and the Average Variance Extracted (AVE) were above 0.50 (Table 2). Therefore, no items needed to be dropped from the factors. The results of the standard deviations (SD) and skewness values did not suggest problems with the assumptions of normality.

Table 2. Descriptive Analysis

Variable	Dimensions	No. of Items	Cronbach Alpha	AVE	Mean	SD	Skewness
Stimulation	Exterior	6	0.76	0.59	3.45	0.68	-0.27
	General Interior	11	0.87	0.62	3.50	0.65	-0.59
	Store Layout	7	0.79	0.59	3.47	0.62	-0.50
	Interior Display	3	0.73	0.69	3.49	0.77	-0.48
	Human Variable	6	0.82	0.66	3.47	0.89	-0.31
	Value	6	0.80	0.64	3.01	0.66	-0.52
Organism	Emotion	5	0.82	0.69	3.37	0.76	-0.39
	Mood	6	0.82	0.66	3.44	0.70	-0.59
	Experience	5	0.80	0.68	3.42	0.72	-0.47
Response	Cognitive	4	0.81	0.72	3.38	0.78	-0.30
	Affective	4	0.79	0.70	3.44	0.73	-0.36
	Behavioral	9	0.81	0.72	3.36	0.77	-0.40

4. Results

Structural Equation Model (SEM) test was performed to investigate the international and the local coffee-house sample model. The results indicated a good model fit for the total sample, international, and local coffee-house (Table 3). Figure 2 illustrates the coffee-house retailing model, and that the proposed model should be accepted. Table 3 shows the fit indices of HEIs branding model using two samples namely, the international and local coffee-house.

Table 3: Fit Indices of the Model

HEI	χ^2	df	χ^2/df	GFI	NFI	RMSEA
Total	136.46	51	2.68	0.92	0.96	0.08
International	91.25	51	1.79	0.90	0.94	0.08
Local	80.83	51	1.59	0.91	0.95	0.07

Table 4 presents the results from the SEM as well. The regression weights for two coffee-house samples indicate that the stimulus is significantly related to the organism, organism is positively related to response, and the stimulus is positively related to response. All the hypotheses (H1, H2, and H3) are supported. The results are consistent with Dong and Siu (2013), Fiore and Kim (2007), Kaltcheva and Weitz (2006), Turley and Milliman (2000), Yoo et al. (1998), Lam et al. (2011), Vieira (2013), and Walsh et al. (2011).

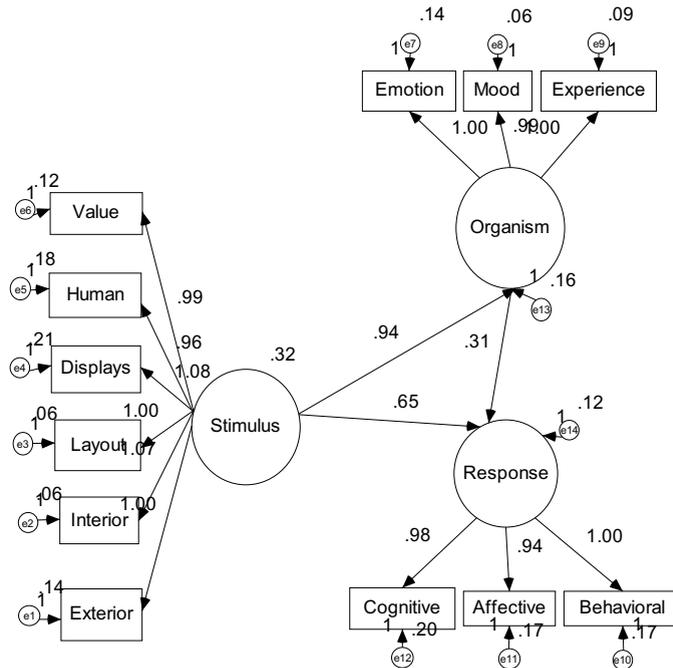


Figure 2: Coffee-house Retailing Model

Table 4: Regression Weights of the SOR Model

Path	Estimate	International			Local			
		Standard Error	Critical Ratio	p	Estimate	Standard Error	Critical Ratio	p
Organism ← Stimulus	0.87	0.10	9.16	0.001**	0.98	0.10	10.13	0.001**
Response ← Organism	0.37	0.10	3.84	0.001**	0.27	0.12	2.26	0.02*
Response ← Stimulus	0.60	0.11	5.34	0.001**	0.68	0.15	4.53	0.001**

Note. *p<0.05, ** p<0.01

Further analysis was carried out to examine whether the coffee-house retailing model vary by the different groups. Table 5 shows the M and SD for the international and local coffee-house. The international coffee-house has better mean compared to the local coffee-house, and both of the mean scores of all the dimensions are higher than the median (2.50). An independent-samples t-test was conducted to evaluate hypothesis 4. The test was significant, p<0.05. The international coffee-house is better than the local coffee-house. The result is consistent with Kim and Moon (2009).

Table 5: Comparison between International and Local Coffee-House

Dimensions	International (N=143)		Local (N=138)		T-Test	
	Mean	SD	Mean	SD	t	p
Exterior	3.56	0.62	3.33	0.72	2.91	0.004**
General Interior	3.64	0.56	3.36	0.70	3.68	0.001**
Store Layout	3.59	0.52	3.35	0.69	3.26	0.001**
Interior Display	3.60	0.71	3.38	0.82	2.39	0.02*
Human Variable	3.57	0.66	3.38	0.71	2.29	0.02*
Value	3.53	0.56	3.38	0.74	3.27	0.001**
Emotion	3.49	0.72	3.25	0.79	2.68	0.008*
Mood	3.54	0.66	3.33	0.72	2.57	0.01*
Experience	3.52	0.69	3.31	0.75	2.41	0.02
Cognitive	3.50	0.77	3.25	0.77	2.75	0.06**
Affective	3.56	0.65	3.31	0.79	2.97	0.003**
Behavioral	3.46	0.69	3.26	0.83	2.26	0.03*

5. Conclusion

This study further verifies the findings of past studies which confirm that the ownership of retail results in differences in term of stimulus, organism, and response. This study found that the international coffee-house has better stimulus, organism, and response compared to the local coffee-house. The service experience of customers has certainly changed over the past years. These changes can drive the retailer to enhance their retailing stimulus. Additional environmental factors can increase customers' mood and response toward a coffee-house. Local specialist coffee-house needs to enhance their stimulus such as exterior, interior, layout, human variables, and value in order to attract more customers. The local specialist coffee-house can use the SOR model to improve the store environment and value perceptions.

Based on Turley and Milliman (2000) who have reviewed the past literature over 30 years, this study fills the gap by adding a dimension, that is value, as proposed by Yoo et al. (1998). Value is operationalized as the price paid by customers in return with the quality product and service (Yoo et al., 1998). Stimulus plays an important role in many service organizations in that it influences customers' organism and response. The impact of stimulus toward response is stronger compared to the impact of an organism to response. The physical environment may not be enough to attract customers to visit a store. Enhancing value to a store is important in providing competitive advantages for the coffee-house. Additionally, this study enhances Walsh et al (2011) study by adding more specific dimensions in SOR model. The coffee-house retailing model may help researchers develop a more specific retailing model in future.

This work represents a rare study of the SOR model focusing on the specialist coffee-house store. There are ample opportunities remained for further research. First, the model can be tested with other coffee-house stores that can involve more brands. Since the samples used in this study were only from two coffee-house stores, the sampling

may be bias. For the sake of generalizability, future studies should collect data that involve more stores. Another limitation pertains to the measurement of the organism. The study includes three dimensions that are proposed by past literature, however past literature shows the redundancy of items that load to the three dimensions. Future research may consider developing better instruments that clarify the three dimensions of the organism. Finally, a moderator can be introduced in the model. Most past studies suggested various types of moderator such as personality, culture, and customers' involvement level.

References

- Baker, J., Levy, M., and Grewal, D. (1992). An experimental approach to making retail store environmental decisions, *Journal of Retailing*, 64(4), 445-460.
- Bambauer-Sachse, S., & Gierl, H. (2009). Can a positive mood counterbalance weak arguments in personal sales conversations? *Journal of Retailing and Consumer Service*, 16, 190-196.
- Bhardwaj, S., Palaparthi, I., and Agrawal, A. (2008). Exploration of environmental dimensions of servicescapes: a literature review, *The Icfai Journal of Marketing Management*, 7(1), 37-48.
- Bonnin, G. & Goudey, A. (2012). The kinetic quality of store design: an exploration of its influence on shopping experience. *Journal of Retailing and Consumer Services*.
- Bruggen, E. C., Foubert, B., & Gremler, D. D. (2011). Extreme makeover: short- and long-term effects of a remodeled servicescape. *American Marketing Association*, 75, 71-87.
- Business Monitor International Ltd (BMI).(2012). Malaysia food and drink report. Retrieved from <http://www.business monitor.com> (1st October 2013).
- Daunt, K. L., & Harris, L. C. (2012). Exploring the forms of dysfunctional customer behavior: A study of differences in servicescape and customer disaffection with service. *Journal of Marketing Management*, 28,1-2, 129-153.
- Dong, P. & Siu, N. Y. (2013). Servicescape elements, customer predispositions and service experience: the case of theme park visitors. *Tourism Management*, 36, 541-531.
- Fiore, A. M., & Kim, J. (2007). An integrative framework capturing experiential and utilitarian shopping experience. *International Journal of Retail & Distribution Management*, 35 (6), 421-442.
- Insgae.com. (Jun 30, 2011). Old Town Berhad: second largest café network in Malaysia. Retrieved from: <http://www.insgae.com.my>
- Kaltcheva, V. D. & Weitz, B. A. (2006). When should a retailer create an exciting store environment? *Journal of marketing*, 70, 107-118.
- Kim, G. K., and Mattila, A. S. (2010). The impact of mood states and surprise cues on satisfaction. *International Journal of Hospitality Management*, 29, 432-436.
- Kim, W. G., and Moon, Y. J. (2009). Customers' cognitive, emotional, and actionable response to the servicescape: a test of the moderating effect of the restaurant type.
- Lam, L. W., Chan, K. W., Fong, D., and Lo, F., (2011). Does the look matter? The impact of casino servicescape on gaming customer satisfaction, intention to revisit, and desire to stay. *International Journal of Hospitality Management*, 30, 558-567.
- Lin, I. Y. (2004). Evaluating a servicescape: the effect of cognition and emotion. *Hospitality Management*, 23, 163-178.
- Malhotra, N. K. (2002). *Basic Marketing Research: application to contemporary issues*. New Jersey: Prentice Hall.
- Oldtown.com. (October 1, 2013). Retrieved from: <http://www.oldtown.com.my>
- Rose, S., Clark, M., Samouel, P., and Hair, N. (2012). Online customer experience in e-retailing: an empirical model of antecedents and outcomes, *Journal of Retailing*, 88(2), 308-322.
- Rosenbaum, M. S., & Montoya, D. Y. (2007). Am I welcome here? Exploring how ethnic consumers assess their place identity. *Journal of Business Research*, 60, 206-214.
- Spies, K., Hesse, F., Loesch, K. (1997). Store atmosphere, mood and purchasing behavior, *International Journal of Research in Marketing*, 14, 1-17.
- Starbuck.com. (October 1, 2013). Retrieved from <http://www.starbuck.com.my>
- Turley, L. W., & Milliman, R. E. (2000). Atmospheric effects on shopping behavior: a review of experimental evidence. *Journal of Business Research*, 49, 193-211.
- Yoo, C., Park, J., & MacLinnis, D. J. (1998). Effects of Store Characteristics and In-Store Emotional Experiences on Store Attitude. *Journal of Business Research*, 42, 253-263.
- Vieira, V. A. (2013). Stimuli-organism-response framework: A meta-analytic review in the store environment. *Journal of Business Research*, 1420-1426.
- Walsh, G., Shiu, E., Hassan, L. M., Michaelidou, N., and Beatty, S. E. (2011). Emotions, store-environmental cues, store-choice criteria, and marketing outcomes. *Journal of Business Research*, 64, 737-744.
- Wong, Y. T., Osman, S., Jamaluddin, A., & Chan, Y. F. B. (2012). Shopping motives, store attributes and shopping enjoyment among Malaysian youth. *Journal of Retailing and Consumer Services*.