

Effect of Servicescape on Emotion, Mood, and Experience among HEI students

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In enriching past literature on the relationship between servicescape and organism, this study extends the Mehrabian and Russell's (MR) model to examine the effect of servicescape on mood, emotion, and experience. Self-administered questionnaires were distributed to students in public and private higher education institutions (HEIs). A total of 439 questionnaires were used in the data analysis. Using structural equation modelling, this study shows that human, employee, and product values influence students' emotion, mood, and experience. This study provides an extension of MR's model in examining servicescape and organism as multidimensional variables.

Field of Research: higher education institutions, servicescape

1. Introduction

The higher education industry in Malaysia has experienced a significant growth over the last 10 years and has become internationally industrialized. To date, there are 120 public institutions and 551 private institutions with the total enrollment of 1,033,110 students (Ministry of Higher Education, 2015). The internalization of higher education institutions (HEIs) in Malaysia has led to greater challenges and stronger competition. The internalization of higher education has forced institutions to focus on academic quality and a superior environment to enhance students' learning process and influence their buying decision (Ng & Forbes, 2009). Millions of dollars have been spent on building and designing attractive campuses (Bernama, 2008), however, creating a unique image is an increasingly difficult task. Yet, the impact of servicescape toward students' response has been under study.

Past literature related to retailing indicated that customers' response is influenced by their physical environment which include music, colour, cleanliness, and layout. (Kim & Moon, 2009; Yoo, Park, & Machlinnis, 1998). This physical environment stimulus is also known as servicescapes in the service industry (Lin, 2004). Mehrabian and Russell's (MR) model has been widely used in the retailing literature and has been proven to be valid and beneficial to the retailing industry. Despite the contribution of MR's model in the retailing literature, this model is rarely tested within the service industries (Jang and Namkung, 2009). Due to the uniqueness of higher education industry, the relationship between servicescape stimulus and organism may vary when compared to other service industries. The servicescape provided by HEIs may influence customers' response in different ways since students spend longer time in the service compared to other types of service.

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Mehrabian and Russell's (MR) model posits that environmental cues influence individual organism which includes emotion (Hyun and Kang, 2014; Jang and Namkung, 2009; Yoo, Park, & Machlinnis, 1998; Vieira, 2013), experience (Dong and Siu, 2013), and mood (Spies Hesse, & Loesch, 1997). The relationship between servicescape and customers' organism has been studied in the retail and hospitality industry (Bhardwaj et al, 2008), however little is known about marketing research within the education industry (Ng and Forbes, 2009). Ng and Forbes (2009) recommended to look directly at universities from a service marketing perspective and provide an understanding of how students would value the universities' offerings. Therefore, in addressing this gap, this study aims to increase the understanding of the role of servicescape in determining students' mood, emotion, and experience.

The structure of this paper is as follows: The second section reviews the literature on servicescape, emotion, mood, and experience; the third section reports on the methods used in this study which include questionnaire development, population and sampling; the fourth section discusses the results of this study; and the last section concludes by reviewing the summary of results and implication.

2. Literature Review

Lin (2004), Kim and Moon (2009), and Medabesh and Upadhyaya (2012) referred to servicescape as the design of physical environments created by a firm to enrich the action of their employees and customers. Table 1 illustrates the past literature on MR's model. The overall pattern of the results suggest the ability of servicescape in affecting organism, but the results are inconsistent. Foxall (1997) also indicated that the results of MR's model in consumer research contradicted. Past literature concurred on the definition of servicescape, but not on the dimensions of servicescape. The type of service was the cause of the variance in the dimensions of environmental stimulus (Kim & Moon, 2009).

Most past studies have conceptualized organism in a similar way but with three different dimensions. The most acceptable concept of organism is emotion (Yoo, Park, & Machlinnis, 1998; Lin, 2004; Kaltcheva and Weitz; 2006; Fiore & Kim, 2007; Jang & Namkung, 2009; Kim & Moon, 2009; Walsh et al., 2011; Vieira, 2013). Spies Hesse, and Loesch (1997) had conceptualized organism as mood; and Dong and Siu (2013), and Grewal, Levy, and Kumar (2009) as experience. The dissimilar concept of organism may have caused the inconsistent results of the relationship between servicescape and organism. Two gaps have been identified from the literature. First, prior studies on the relationship between servicescape and organization examined the emotion, mood, and experience separately. Second, servicescape has been examined as a unidimensional concept, regardless of the types of service. This study, therefore aims to fill this gap.

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Table 1: Relationship between stimulus and organism

Citation	Industry	Servicescape	Organism	Results
Spies Hesse, and Loesch (1997)	Furniture stores	1. Condition 2. Information rate 3. Layout	Mood	Significantly related
Yoo, Park, & Machlinnis, 1998 (1998)	Retailing	1. Product Assortment 2. Value of Merchandise 3. Salesperson Service 4. After Sale Service 5. Facilities 6. Atmosphere 7. Store Location	Positive Emotions Negative Emotions	All significant except for the relationship between atmosphere and emotions.
Turley and Milliman (2000)	Review Past Literature	1. Exterior 2. General Interior 3. Store Layout Interior Displays 4. Human Variables	Lifestyle Shopping orientation stage in HLC Situation	Conceptual paper
Lin (2004)	Review	1. Visual cues 2. Auditory cues 3. Olfactory Cues	1. Emotional response 2. Cognition	Conceptual paper
Kaltcheva and Weitz (2006)	Experiment, participants view computer screens	Environment characteristics	Emotion 1. Arousal 2. Pleasantness	Motivational orientation as a moderator between the relationships.
Fiore and Kim (2007)	Literature	1. Ambient cues 2. Design cues 3. Social cues	1. Cognition 2. Consciousness 3. Affect 4. Emotion	Conceptual paper
Grewal, Levy, and Kumar (2009)	Review	1. Firm controlled factors 2. Promotion 3. Price 4. Merchandise 5. Supply Chain 6. Location	Customer experience	Conceptual paper
Jang and Namkung (2009)	Restaurant	1. Product quality 2. Atmospherics 3. Service quality	Emotion (Positive and Negative)	Product quality related to negative emotion. Atmospherics and service quality related to positive emotion.
Kim and Moon (2009)	Restaurant	1. Facility Aesthetics 2. Layout 3. Electric Equipment 4. Seating Comfort 5. Ambient conditions	Pleasure-feeling Perceived Service Quality	Servicescape as unidimensional, significantly related with pleasure-feeling and perceived service quality
Lam et al. (2011)	Casino	1. Ambience 2. Navigation 3. Seating Comfort 4. Interior décor 5. Cleanliness	1. Cognitive satisfaction 2. Affective satisfaction	Only navigation was significantly related with cognitive and affective satisfaction.

Table 1 (Continued)

Citation	Industry	Servicescape	Organism	Results
Walsh, et al. (2011)	Coffee Shops	1. In-store music 2. In-store aroma 3. Merchandise quality 4. Service quality 5. Price	Emotions (Arousal, Pleasure)	Only in-store music was significantly related to both arousal and pleasure.
Dong and Siu (2013)	Theme park visitors	1. Substantive staging (background, functional) 2. Communicative Staging (Employee behavior, employee image, cultural, atmospherics)	Service experience Evaluation	Both substantive and communicative staging influenced service experience evaluation.
Vieira (2013)	Past literature review	The Environment Characteristic	Emotional (Pleasure, Arousal)	Significantly related.

2.1 Servicescape

Servicescape is defined as physical surroundings that aim to provide a superior service experience (Bhardwaj, Palaparthi, & Agrawal, 2008). Servicescape refers to the design of physical environments that are outlined by a firm to enhance the action of their employees and customers (Kim & Moon, 2009; Lin, 2004). Servicescape is a manmade environment and is tangible (Kim & Moon, 2009). Past literature concurred that servicescape is an important factor in influencing customers' behavior, positively or negatively (Daunt & Harris, 2012). In the service industry, servicescape becomes pertinent because of the intangible nature of the service (Medabesh & Upadhyaya, 2012). Goi and Kalidas (2015) had examined and proved that the multidimensional servicescape consists of interior, wellbeing, location, exterior, layout and facility, human value, employee, and value and product assortment.

2.2 Emotion

Emotion is the most important dimension that is adopted by the retailing researchers from psychological theories. According to Yoo, Park, and Machlinnis, 1998 (1998, p. 254) emotion can be conceptualized as a set of discrete and phenomenological distinct affective states. Fiore and Kim (2007) explained that emotion includes subjective feeling states within individuals. Most past literature had conceptualized emotion as pleasure, and arousal (Kaltcheva & Weitz, 2006; Kim & Lennon, 2009; Walsh et al., 2011). Kim and Lennon (2009) indicated that dominance, which is used to conceptualize emotion, had not been included as a number of past studies found the dimension to be insufficient.

Fiore and Kim (2007) had proposed the impact of servicescape toward emotion but had not empirically examined the relationship. Yoo, Park, and Machlinnis (1998), Lin (2004), Kaltcheva and Weitz (2006), Jang and Namkung (2009), Walsh et al. (2011), and Vieira (2013) had empirically examined the relationship between servicescape and emotion. Yoo, Park, and Machlinnis (1998) had examined all the dimensions of servicescape and found that only atmosphere was not significantly related to emotion. Jang and Namkung (2006) however, found atmospherics to be related to positive emotion. Walsh et al. (2011) found in-store music was related to emotion within coffee shops setting. Therefore, the following hypothesis was developed.

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H1: The servicescape that consists of (a) general interior, (b) service wellbeing, (c) location, (d) exterior, (e) layout and facilities, (f) human variable, (g) employee, (h) value and product has an effect on the emotion of the customers.

2.3 Mood

Furnham and Milner (2013) explained that customers' mood is influenced by the service environment. Compared to emotion, mood is gentle and is caused by the environment (Kim & Mattila, 2010). Since service industries involve conversations between customers and employees, the customers' mood might affect their evaluation of a service (Bambauer-Sachse & Gierl, 2009). Gardner (1985) defines a mood state as "an omnipresent and a phenomenological property of individuals' perceived affective state that can be readily affected by a service provider's action or by the environment of the service place." Bambauer-Sachse and Gierl (2009) indicated that customers' mood has both a direct and an indirect effect on customers' product evaluation.

Spies, Hesse, and Loesch (1997) and Gardner (1985) indicated that very few studies have attempted to investigate the effects of servicescape on customers' mood. Arnold and Reynolds (2009), and Yildirim, Akalin-Baskaya and Hidayetoglu (2007) found that mood is directly influenced by marketing stimulus. Spies, Hesse, and Loesch's (1997) study indicated detailed servicescape elements that influenced customer's mood, which were condition, layout, and information rate. The above findings lead to the following hypothesis:

H2: The servicescape that consists of (a) general interior, (b) service wellbeing, (c) location, (d) exterior, (e) layout and facilities, (f) human variable, (g) employee, (h) value and product has an effect on the mood of the customers.

2.4 Experience

Dong and Siu (2013) had introduced service experience as an organism for MR's model. Grewal, Levy, and Kumar (2009) explained that firms must focus on customers' experience in order to gain competitive advantages. Dong and Siu (2013) also recommended service experience as one of the important elements in the service industries. Customer experience includes every point of contact at which customers interact with services (Grewal, Levy, & Kumar, 2009). Esbjerg et al. (2012) indicated that the concept of experience remains undefined and without empirical support in the literature. Experience involves customers' cognitive, affective, emotional, social and physical responses to the service provider (Esbjerg et al., 2012)..

The literature that investigates the relationship between servicescape and customers' experience is limited. Grewal, Levy, and Kumar (2009) indicated that the environment created by the retailer is affecting customers' experience. Dong and Siu (2013) found servicescape to be related with service experience, the servicescape consists of six dimensions namely, background, functional, employee behaviour, employee image, cultural, and atmospherics. Dong & Siu (2013) had divided servicescape into two groups: substantive and communicative. Based on literature discussed, the following hypothesis was developed:

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H3: The servicescape that consists of (a) general interior, (b) service wellbeing, (c) location, (d) exterior, (e) layout and facilities, (f) human variable, (g) employee, (h) value and product has an effect on the experience of the customers.

3. Methods

A set of questionnaires were developed to collect data on servicescape, organism, and demographic. A total of 50 items taken from the literature were used to measure servicescape (Kim & Moon, 2009; Turley & Milliman, 2000; Lam et al., 2011; Yoo, Park, & Machlinnis, 1998; Walsh et al., 2011; Wong et al., 2012; Daunt & Harris, 2012; Lin, 2004; Fiore & Kim, 2007). Three dimensions and 16 items were developed to measure organism (Bambauer-Sachese & Gierl, 2009; Kim & Moon, 2009; Peterson & Sauber as cited in Kim & Mattila, 2010; Rose et al., 2012; Walsh et al., 2011). Emotion consists of 5 items; mood consists of 6 items, and experience consists of 5 items. A five-point Likert scale was used in which 1 refers to strongly disagree and 5 as strongly agree.

For data collection, 500 sets of the questionnaire were distributed equally to public and private HEIs. Exploratory data analysis (EDA) was performed to screen the data for violation of assumptions for statistical tests. After EDA was performed, 439 questionnaires were deemed useable for analysis. Table 2 illustrates the descriptive summary of the respondents. Table 3 shows the results of Mean, Standard Deviation (SD) and Skewness. All the values met the basic assumptions for inferential statistics. The Mean, SD, and Skewness (between ± 1.00) showed no violations of multivariate normality and linearity.

Table 2: Descriptive Summary of Sample

	Variables	N	Percentage (%)
Age	19 or younger	61	13.90
	20 - 23	321	73.12
	24-29	46	10.48
	30 or older	11	2.51
Gender	Male	191	43.81
	Female	245	56.19
Classification	First-year	149	34.02
	Second-year	173	39.49
	Third-year	73	16.67
	More	43	9.82
Type of HEIs	Private	202	46.01
	Public	237	53.99

A Confirmatory Factor Analysis (CFA) was performed to test the reliability and validity of the instrument (Table 3). The model fit well with the data (RMSEA > 0.08, CFI > 0.90), the CR is above 0.70 and the AVE is above 0.50 (Kim and Mattila, 2010).

Table 3: Descriptive statistic

Variable	Dimensions	No. of Items	CR	AVE	Mean	SD	Skewness
Servicescape $\chi^2/df=2.19$, $p<0.01$, RMSEA=0.05, CFI=0.91, NFI=0.95				0.52			
	Interior	4	0.77		3.65	0.69	-0.19
	Service Quality	3	0.70		3.03	0.84	-0.03
	Location	3	0.71		3.40	0.83	-0.29
	Exterior	5	0.86		3.34	0.76	-0.37
	Layout and Facilities	13	0.92		3.25	0.72	-0.20
	Human Value	5	0.88		3.42	0.70	-0.32
	Employee Value and Product	3	0.89		3.33	0.87	-0.33
		5	0.88		3.26	0.80	-0.20
Organism $\chi^2/df=2.91$, $p<0.01$, RMSEA=0.07, CFI=0.92, NFI=0.95				0.68			
	Emotion	5	0.92		3.38	0.77	-0.27
	Mood	6	0.93		3.46	0.75	-0.41
	Experience	5	0.90		3.37	0.74	-0.18

4. Results

The hypotheses were examined using Structural Equation Modeling (SEM). The results meet the fitness of the study model to the data ($\chi^2/df=2.14$, $p<0.01$, RMSEA=0.05, CFI=0.92, NFI=0.95, RMR=0.02). From Table 4, nine hypotheses were supported and fifteen hypotheses were not supported. Two hypotheses show significant results for all three organism dimensions which are human and product value. The findings suggest that human and product value are significant predictors of emotion, mood, and experience. Employee service shows a significant relationship toward emotion ($\lambda=0.15$, $t=4.25$, $p=0.001$) and mood ($\lambda=0.14$, $t=3.40$, $p=0.001$). Exterior has a significant impact toward students' mood ($\lambda=0.11$, $t=2.16$, $p=0.03$), but not significant towards emotion and experience. The finding of this study is consistent with Yoo, Park, and Machlinnis' (1998) study on the significant relationship between product assortment and emotion, employee and emotion. The results also corroborate with Walsh et al.'s (2013) study that found no significant relationship between the dimensions of servicescape and emotion.

Table 4: Structural equation modelling results

Paths	Hypothesis	Covariance (λ)	Critical Ratio (t)	p	Results
Interior → Emotion	H1a	0.07	1.56	0.12	Not support
Service Q → Emotion	H1b	0.03	0.70	0.49	Not support
Location → Emotion	H1c	-0.1	-0.36	0.72	Not support
Exterior → Emotion	H1d	0.08	1.69	0.09	Not support
Layout → Emotion	H1e	0.10	1.69	0.09	Not support
Human → Emotion	H1f	0.12	2.70	0.007	Support
Employee → Emotion	H1g	0.15	4.25	0.001	Support
Value → Emotion	H1h	0.28	6.42	0.001	Support
Interior → Mood	H2a	0.08	1.56	0.12	Not support
Service Q → Mood	H2b	-0.03	-0.75	0.45	Not support
Location → Mood	H2c	0.02	0.36	0.72	Not support
Exterior → Mood	H2d	0.11	2.16	0.03	Support
Layout → Mood	H2e	0.06	0.94	0.35	Not support
Human → Mood	H2f	0.33	6.45	0.001	Support
Employee → Mood	H2g	0.14	3.40	0.001	Support
Value → Mood	H2h	0.17	3.48	0.001	Support
Interior → Experience	H3a	0.02	0.37	0.71	Not support
Service Q → Experience	H3b	-0.02	-0.47	0.64	Not support
Location → Experience	H3c	0.06	1.39	0.17	Not support
Exterior → Experience	H3d	0.09	1.87	0.06	Not support
Layout → Experience	H3e	0.11	1.69	0.09	Not support
Human → Experience	H3f	0.16	3.24	0.001	Support
Employee → Experience	H3g	0.06	1.51	0.13	Not support
Value → Experience	H3h	0.33	6.90	0.001	Support

5. Summary and Conclusions

Yoo, Park, and Machlinnis (1998), Lin (2004), Kaltcheva and Weitz (2005), Fiore and Kim (2007), Jang and Namkung (2009), Kim and Moon (2009), Walsh et al. (2011), and Vieira (2013) indicated that emotion is influenced by stimulus. However, not all elements in the stimulus directly influenced emotion. Results of the present study show that human, employees and value directly influence customers' emotion within HEIs context. Spies, Hesse, and Loesch (1997) had found a significant relationship between servicescape (condition, information rate, and layout) and mood in furniture stores. But, this study found that layout was not significantly related to mood within HEIs context. This study found that exterior, human, employees, and value are significantly related to mood. Dong and Siu (2013), and Grewal, Levy, and Kumar (2009) introduced experience as the dimension of organism. The findings of the present study support Dong and Siu's (2013) study rather than Grewal, Levy, and Kumar's (2009). This study found that interior, human, and value significantly related to experience within HEIs context.

In order to fill the gap of servicescape and organism that had been examined as unidimensional in RM model, this study has several theoretical implications. First, this study considers servicescape having eight (8) dimensions which influences organism which consists of three (3) dimensions. This allows for each dimension of servicescape to be examined individually towards emotion, mood, and experience. This study provides an extension of MR model in the services industry. Second, Turley and Milliman (2000), Lin (2004), Fiore and Kim (2007), and Grewal, Levy, and Kumar (2009) had proposed a conceptual model of the relationship between stimulus and organism. The present study provides a clear picture of how servicescape's dimensions influence emotion, mood, and experience. The results empirically

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support that human and product value have a positive effect on emotion, mood, and experience.

This study also provides several managerial implications. The results of this study can assist HEIs to better understand how each of the servicescape dimensions can influence students' emotion, mood, and experience. Since the cost of creating better servicescape is high, HEIs can choose to focus on human, employees, and product value. Four actionable implications are applicable for HEIs. First, HEI can create student culture that matches with students' attitude in the campus and also support groups to help the students. Second, employee attitudes, approaches, and manners need to be coordinated. Third, HEIs need to review the quality of their programmes and offer programmes that match the current market needs.

Few dimensions of servicescape were found to be insignificantly related to emotion, mood and experience. The results were not surprising because past literature had also found mixed results of servicescape impact. There are a number of limitations and future studies related to this study. In order to specifically examine the multidimensional servicescape and organism, this study adopted MR's model and only focused on the relationship between stimulus and organism. Further studies are needed to fully adopt MR's model. The results did not support few proposed hypotheses. Students may differ in their responses to emotion and mood due to differing personality and type of HEIs. Therefore, personality and type of HEIs can be examined as moderators. This study examined the servicescape and organism as multidimensional. The results may vary compared to past literature which operationalized organism as unidimensional. Thus, the operationalization of organism can be explored further.

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