Personality as a Moderator of SOR Model

Mei Teh, Goi*
Infrastructure University Kuala Lumpur
goimt@iukl.edu.my

Vigneswari Kalidas
Infrastructure University Kuala Lumpur
vignes@iukl.edu.my

 Muhammad Zeeshan
Infrastructure University Kuala Lumpur
mzeeshan35@hotmail.com

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. Past literature in their conceptual papers had been suggested personality traits as the factors influence the retailing model. This study aims to empirically investigate the moderating role of personality traits in Stimulus-Organism-Response (SOR) model. Big five personality inventory was adopted in study. A consumer intercept survey was conducted to collect 377 usable and valid data from Starbuck and Old Town coffee-house chain. A structure equation model was performed to analyse the data. The results show that only agreeableness is significant moderate the relationship between stimulus and response. The respondents with low agreeableness strongly influence the relationship between stimulus and response. Theoretical and practical implications are suggested to indicate the contribution of this study and for successful businesses.

Key words: **Retailing, SOR model, Personality Traits**

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). 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 consumer behaviour that may influence retailing model 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 behaviour. 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 behavioural 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 behaviour 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 various moderators in their model such as type of retail (Kim and Moon, 2009), and micro-perspective and macro-perspective (Lin, 2004).

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 and lack of study are empirical paper had been conducted for the full SOR model (Walsh et al., 2011). Most of the past literature had reviewed the full SOR model as conceptual paper, for example the studies of Fiore and Kim (2007) and Lin (2004). In their conceptual paper, both had agreed that personality traits possibly will play as a moderating role in retailing model. Based on Fiore and Kim (2007) and Lin (2004) proposition, this study aims to fill the gap to empirical investigate a full SOR model that focuses on a specific service industry and examine the influencing of personality traits as moderators in the SOR model.

2. LITERATURE REVIEW
2.1 SOR Model
The influenced of Mehrabian and Russell affect model had never been denied by past literature. Generally, 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. 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.

2.2 Personality

The Big Five model is a most acceptable personality model in psychology studies (Hahn et al., 2012). In measuring the personality traits, most of the acceptable questionnaires consist of 60 items or 44 items (Hahn et al., 2012). The total amount of personality traits questionnaire might be one of the reasons for not apply Big Five model in most of retailing model. For example, Adjei and Clark (2010) had applied trait theory in measure personality traits that consists of consumer innovativeness, variety seeing, and relationship proneness. Bove and Mitzifiris (2007) had adopted big five model but they only investigate four of the five traits namely agreeableness, conscientiousness, extraversion and emotional stability. Bove and Mitzifiris (2007) had examined the impact of personality traits with trust and commitment of the retail store. Bove and Mitzifiris (2007) had adopted international personality item pool (IPIP) that consists of 40 items. In recent years, short measurements of personality had been introduced in order to provide a valid a reliably instrument to measure personality in large panel studies (Hahn et al., 2012).

Big Five Model consists of five major personality traits, Bove and Mitzifiris (2007, p.508) had summary the description of each trait as following:
1. Extraversion – High extraversion reflects a person who is sociability, cheerfulness, gregariousness, talkativeness, energy and activity.
2. Conscientiousness – Individual with high extraversion is very orderliness, organization and precision. Individual with low extraversion is careless, disorganized or irresponsible.
3. Neuroticism – Individual with high neuroticism is emotional steady, but individual with low neuroticism is unsteadiness in control emotion.
4. Openness – Reflects individual who with high openness as person who enjoys intellectual, change and variety and includes imaginativeness and creativeness. Individual with low openness is narrow-mindedness, unimaginativeness and conventionality.
5. Agreeableness – Shows individual with high agreeableness as warm feeling, good natured, empathic, and soft hearted. But individual with low agreeableness is cold, rude, unkind, irritable, ruthless, suspicious and inflexible.

2.3 Moderating role of Personality

Dong and Siu (2013) had suggested investigating other potential moderators that might help explain the active role of visitors in the service retailing. Based on the past literature review in Table 1, personality trait had been suggested by Lin (2004), and Fiore and Kim (2007) in their conceptual paper. Adjei and Clark (2010) had investigated the role of personality as moderator between satisfaction-driven relationship quality and behavioural loyalty of retail shopper. The study had indicated that personality traits moderating the relationship between relationship quality on behavioural loyalty. The study had thrown a

light in including the role of personality in retailing research. Based on the discussion above, this study developed a full framework as shown in Figure 1. To address this lack of study, following research question is offered.

Research Question: *Will personality moderate the relationship between stimulus, organism, and response in retailing model?*
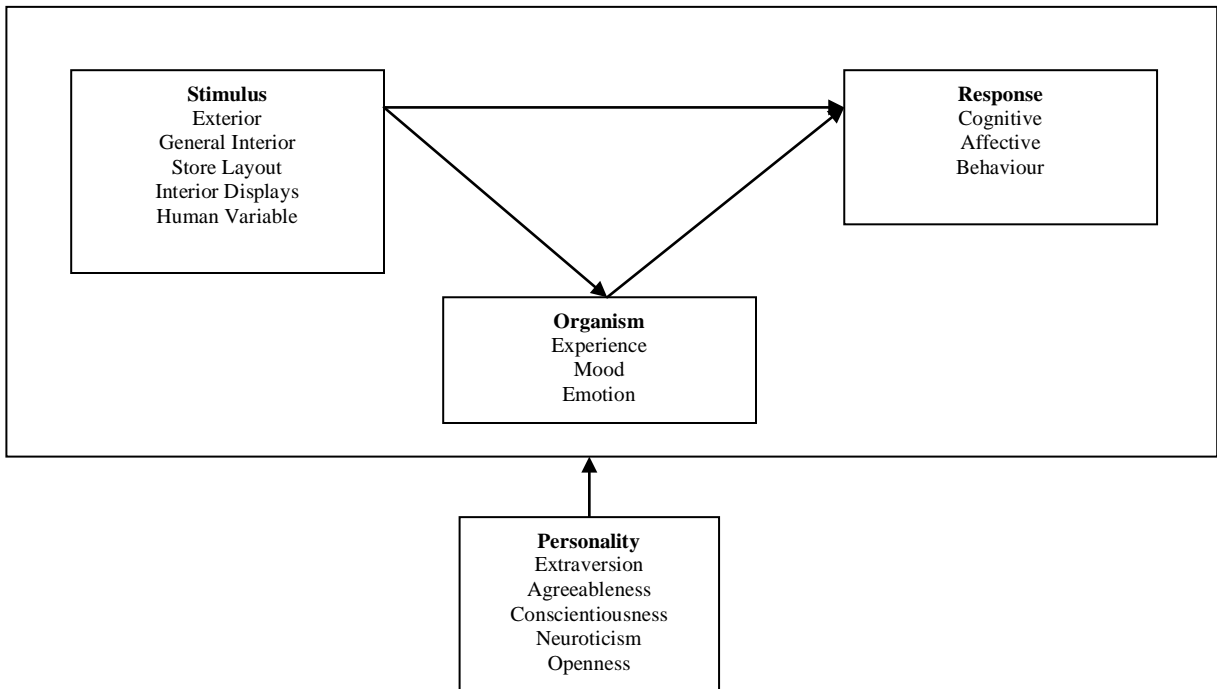

Figure 1: Research Framework

Table 1: Summary of SOR Model

Citation	Industry	Stimulus	Organism	Response	Moderator
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	Personality traits, Expectations, Goal behaviors, Cognitive-style, Involvement, Socio-cultural, individualism vs. collectivism, Demographics, Aesthetics
Kaltcheva and Weitz (2006)	Experiment, participants view computer screens	Environment characteristics	Arousal Pleasantness	Shopping behavior	Motivational Orientation
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	Personality traits, Demographic characteristics, Market Segments, and Situation
Kim and Moon (2009)	Restaurant	Facility Aesthetics Layout Electric Equipment Seating Comfort Ambient conditions	Pleasure-feeling Perceived Service Quality	Revisit Intention	Theme Restaurant Type
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	Fantastic Imaginary Orientation Desire for Active Participation
Vieira (2013)	Past literature review	The Environment Characteristic	Emotional Pleasure Arousal Dominance	Shopping Behavior	-

3. METHODOLOGY

A total of 400 surveys were distributed to the customers of Starbuck and Old Town White Coffee. Both of the retail been selected because Starbuck is the largest and Old Town White Coffee is the second largest specialist coffee-house in Malaysia. 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 400 questionnaires distributed, 377 (94.25%) were usable and valid for analyses while 23 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). Measuring personality in one minute a 10 items short version of the big five inventory was adopted from Rammstedt and John (2007). 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	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
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 influence of personality on SOR model. The results indicated a good model fit for the model. Figure 2 illustrates the coffee-house retailing model, and that the proposed model should be accepted (χ^2=121.27, df=41, p+0.001, RMSEA=0.07, GFI=0.94, NFI=0.97).
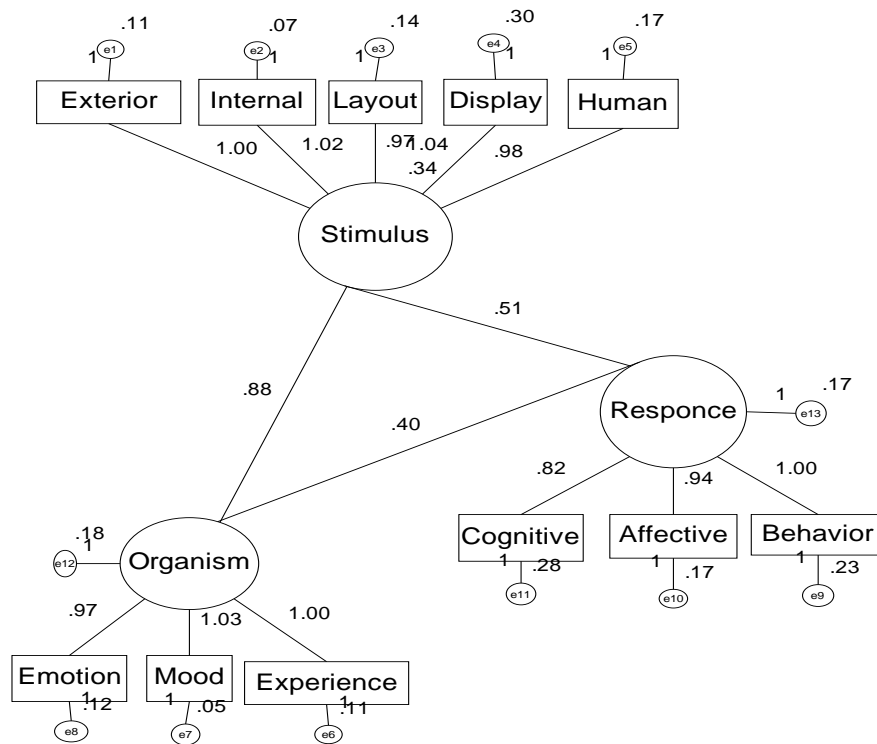
Figure 2: Coffee-house Retailing Model

Using the model as a baseline, this study then examined the moderating effects of personality on each of the paths in the model. The overall fit statistics for high and low levels of each personality variable had been assess and show in Table 3. All of the models fit the data well (GFI>0.90, NFI>0.90, RMSEA<0.08). In order to compare the paths for high and low in personality, an examination of the critical ratios for differences among the paths for each of the personality characteristics is presented in Table 3. The critical ratios for z-test between two models need to be greater than 1.96. From Table 3, no significant differences were found among the paths in the models for extraversion, conscientiousness, neuroticism, and openness. However, for agreeableness, one path approached significance. For the respondents high and low in agreeableness revealed that those scoring lower in agreeableness are expressed more positive relationships between stimulus and response. The estimate value (β) of response←stimulus for low in agreeableness is 0.86 and the estimate value for high in agreeableness is 0.44. In order words, for those scoring low in agreeableness, stimulus strongly determine their response compare to those scoring high in agreeableness. Scoring high in agreeableness reflects a general warm feeling towards other, scoring low in agreeableness reflects individual is cold, rude, unkind, irritable, ruthless, suspicious and inflexible (Bove and Mitzifiris (2007).

Table 3: Fit Indices of the Model Index and Critical Ratios

	Extraversion	**Conscientiousness**	**Neuroticism**	**Openness**	**Agreeableness**
χ^2	200.36	180.78	180.44	185.82	207.83
df	82	82	82	82	82
p-value	0.001	0.001	0.001	0.001	0.001
GFI	0.91	0.92	0.92	0.92	0.91
NFI	0.95	0.95	0.95	0.95	0.95
RMSEA	0.06	0.06	0.06	0.06	0.06
Organism ← Stimulus	-1.70	-1.52	-0.09	-0.50	1.13
Response ←Organism	-0/01	1.37	0.11	-1.23	0.02
Response ←Stimulus	0.28	0.41	1.28	-0.21	-2.08

5. CONCLUSION

To address the important of stimulus in retailing model, study have developed a lot of factors to assist retailer especially in coffee specialist café. Based on past literature suggestion (Fiore and Kim, 2007; Lin, 2004), this study aims to investigate whether personality traits play a role in moderating the retailing model. This study provide differential support for research suggesting that low in agreeableness personality need better stimulus in order for them to response. For agreeableness that high stimulus had not contribute high for their response. Past research had not empirical test the influence of personality on SOR model. This study has several theoretical implications for retailing academics. First, it contributes to existing SOR model by showing whether personality traits moderate the relationship between stimulus, organism, and response. Finding indicates not all the personality traits can play a role of moderator in retailing model. This extends the current retailing model literature by refining the role of personality traits.

Although this study had not found significant moderating influence of other personality trait toward SOR model, this study also had contributed to the practical implications. This study provides retailers of how personality traits influence the relationship between stimulus toward organism and response. This finding illustrates that difference types of personality traits moderate the retailing model in difference way. Customer that is not warm depends a lot on retail stimulus in order to enhance their response. Therefore retailers in their pursuit of customer better response will benefit by implementing strategies by build better stimulation for their customer.

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 retailing environment. The data were collected from customers in a single service. It is possible that the data obtained from other service industry. 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 personality. A 10-items measurement version of personality may not able to measure the respondents'

personality. A 15-item or more items of measurement version are more reliably to be adopted. Finally, other moderators can be introduced in the model such as demographic, culture, or norms of the respondents.

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