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Influences of Architectural features that Attract Customers Shopping in the Malaysian Malls: A PLS-SEM Approach

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Abstract: The architectural physical appearances of shopping malls posed serious challenges to the development of shopping malls and attracting customers especially in developing countries. This study aimed at assessing the influences of the architectural features that attract customers' to shop in the Malaysian shopping malls. Four architectural features namely: location of the mall, facilities and services installed, aesthetics and design and also quality of structures in the malls are the main constructs attracting customers to shop in the Malaysian shopping industry. Survey instruments were administered to the customers of major shopping malls in Penang Island of Malaysia. A Warp PLS-SEM software algorithm was used for the analysis of collected data. The results indicated that locations, facilities and services in malls contribute significantly to the attraction of customers' to shop in a mall. The results also show positive substantial relationships between customers' attraction and the architectural features and among the independent variables. The study recommended the developments of shopping malls close to residential houses where customers could easily walk a short distances for shopping. The facilities and services installed in shopping malls attract customers; the developers of shopping mall should consider the design and installation of modern facilities like conveyors, elevators, lifts etc. while designing and constructions of shopping malls.

Key words: *shopping malls, customer attraction, architectural features, marketing*

INTRODUCTION

The effects of growing number of malls, shoppers tend to be more selective. The customers likely patronize malls that are architecturally attractive and have quite attractive features in addition to the variety of stores and merchandise that match their preferences. Therefore, it is essential for malls developers to have adequate knowledge of the architectural features that attract customers to a certain malls [1][2]. The constructions of business shopping malls have currently witness economic boom and improved the life styles and living standards of peoples in developing countries like Malaysia. The architectural features of modern shopping malls have impacted on the modern way of carrying out a business through the erection of architectural monument under the administration of the central management. The architectural features such as mall location, facilities, aesthetics and quality of the structures have attracted shoppers for a business in Malaysian shopping malls [3], Berman & Evans, 2001 [4]; Lui (1997) [5]; Yoon & Kijewski, (1997) [6].

The development of shopping malls in Malaysia evolved from the social and recreational activities of doing business in addition to traditional shopping destination of Malaysia in 1980s and beyond (Lim et al., 2003) [7]. The shopping mall business is a major contributor to the Malaysian gross national income (GNI). The business contributed almost RM57 billion to the GNI in 2009. In order to achieve the 2020 GNI target, the malls business is seen as a key driver of domestic consumptions, which in turn will lead to economic growth [3]. According to Retail Group Malaysia (RPM), retail business which comprises of shopping malls deal recorded about 8.1% development in 2011 with the amount of RM8.2 billion in sales (Inside Malaysia, 2012) [8].

According to the information from Malaysian Association of Shopping and High-rise Complex Management expressed that one in five Malaysian shopped in a mall once a week this is possibly the

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reasons of growing shopping malls. The architectural features in shopping malls were revealed as the major features that attracted customers for shopping [9] (Berman & Evans, 2001)[4]. In accordance with the circumstances, malls location, malls facilities aesthetics and quality of structures in the malls are seen the key features that attract customers for retail shopping in a mall (Yue-Teng et al., 2012) [10] [2]. Therefore, there is the need to identify and assess the architectural features that attract customers for retailing business in Malaysian shopping malls.

The objectives of the study are:
Identify the major architectural features that attract customers for shopping in the Malaysian Malls.
To assess the impacts of the factors toward attracting customers to shop in the malls

LITERATURE REVIEW

Shopping is concerned with making physical contact with malls or shopping centers in a way that customers have a direct contact with some of the physical architectural features incorporated in the constructions of the malls [11] (Dholakia, 1999) [12]. According to Howard (2007) [13], shopping is considered as recreation actions particularly in perspective of the increment of the shopping malls where the customers usually have a direct contact with the physical architectural features in the malls for the purpose of shopping [14], Fram & Axelrod, 1990) [15].

A shopping mall, as defined by ICSC (2004) [16] is a building complex constructed purposely with the aim of shopping business it contains retail and other business. Sankar (2005) [17] defines shopping mall as "commonly, a shopping complex joined by walkways and other architectural features, the malls provided easy access to different and variety of shopping products through using of the architectural features and also it provides a kind of excitements to the targeted buyers.

2.1 Shopping Malls Attractiveness Factors

Shopping centers vary in location, size, design, aesthetics, qualities, facilities, and management services. Customers might be attracted to one or more of the architectural features which affect taste and choices to shop in a particular mall. In the event of growing shopping malls and centers there is a need to consider the architectural features that are attracting customers to shop in a mall when building a new shopping center. Numerous scholarly studies were done to cover different parts of the shopping centers yet just few examines the impacts of architectural features towards attracting customers to a shopping malls [18],[9],[19], (Ruiz, 1999) [20],[21].

2.2 Location of Shopping Mall

Studies in the past considered location of a shopping mall as a component of convenience which may be attract customers to patronize the shopping centers (Bloch et al., 1994) [22] [23] [19]. According to Koçak [3], location is not only necessary for shoppers but for also the managers that manned day to day affairs of the malls. Usually, location of a business is one of the most difficult factors for the developers when it comes to selection of various and alternative site locations, the decision-makers who have to assess a number of alternatives against well-defined criteria for the best location. The key achievement and success of a shopping mall is "location (Syahara & Ristiana, 1992) [24].

Location has a very wide significance which involves catchment area, on the way home, accessibility, and neighborhood advancement. Location also has a very nearby relationship with the accessibility of shopping mall (Syahara & Ristiana, 1992) [24]. Besides that, Nicholls et al., (2002) [25] pointed out that, location is likely the most important elements for a shopping mall.

2.3 Facilities And Services In The Sopping Mall

Generally, malls are considered based on the type of services installed or provided and the ways and means by which they deliver them. These might include transport facilities and services such as lifts, escalators conveyors etc. which are regarded as essential for any modern mall that appreciates the sensitivity of the shopping industry. Thus these services can be classified as personal service (Lovelock et al., 1998) [26]. The studies in the past, also added that shopping centers provide services for the public in terms of access roads within the vicinity, sign boards and amenities such as restrooms (Berman & Evans, 2001) [4].

Besides that, facilities and services also dealt with comfort factor noting that shoppers look for comfort realized in parking, cleanness, width and security of the shopping mall. Provision of air conditioning service, comfortable seats together with rest rooms; central heating, spacious parking, and safety must be made available to enable shoppers to spend time, to shop, or to socialize in the mall. In addition, management has to ensure that shoppers are comfortable if they want to keep up with the attractiveness factors [19].

2.4 Aesthetic and Design of The Mall

Craig and Turley [27] agree that 'aesthetic' has to do with beauty, neatness and design among other things. In modern malls, further attention has been directed to this once neglected aspect in the past. To motivate shoppers means to invest in the inside and outside environments of the mall including layout and architecture so that the shoppers may stay longer and repeat his visits to the mall. According to the study conducted by Lui (1997) [5] today's malls have witnessed a shift in terms of interior design; moving from a quiet classic design to a more sophisticated one with picturesque and eye-catching layout and decoration. Anselmsson [11] added that decorations are important and spaces should be kept as bright and spacious as possible.

In a study by Loudon and Britta (1993) [28] it was found that a better interior design helps to boost the mall image over time. Shoppers thus assess the mall by heavily drawing on some physical features as lacking or being available such as architectural designs and amazing shapes as well as design features like high ceilings, architecture, flooring/carpeting, interior landscaping, and store layout. Loudon and Britta (1993) [28] said mall is a drama staged and maximized by the inclusion of more physical attractive features.

2.5 Quality of Structures in The Mall

The qualities of engineering structures play an important role among customer's choice of a shopping mall. The engineering structures such as basements, basement car parks, storey car parks, the structural steel frames and roof trusses attract customers to shopping malls. The type of modern roofing elements design specifically to conserve heat/cold in the mall complex attracts customers to shop in the malls (Lambert, 1972) [29]. In a study by Charters and Pettigrew (2006) [30] which pointed out that shoppers find it hard to determine what quality of structure is by giving an example on different structures type. More attention is focused when trying to evaluate quality of structures. For instance, perception based on quality differs on different type of structures. This statement has been supported by Tsiotsou (2005) [31] which admits that "quality is a multidimensional concept that is always difficult to determine. The quality of a structure is relied on its specification.

Previous studies linked quality directly to specifications (Carman, 1990) [32], (Parasuraman et al., 1996) [33]. While others find an indirect link through satisfaction (Cronin & Taylor, 1992) [34], (Sweeney et al., 1999) [35] but still others arguably hold that both relationships exist (Tsiotsou, 2006) [31]. Although some would often confuse satisfaction and perceived quality to be interchangeable, especially among practitioners, Rust and Oliver (1994) [36] proposed that the two are different in two ways: perceived quality is a more specific concept relying on product and service features, whilst satisfaction can stem from any dimension.

RESEARCH METHOD

This study is quantitative in nature; a questionnaire survey was administered to 200 customers that visit shopping malls weekly in the Penang Island. The population of this study comprised of all Malaysian shoppers that visit shopping malls, have the willingness, ability and tendency to shop. The questionnaires were randomly distributed to the customers of the seven main shopping malls in Penang Island which are located at Northeast Penang that comprised of First Avenue Mall, Gurney Paragon, Gurney Plaza, Penang Times Square and Prangin Mall and the malls of Southwest Penang that comprised of Bukit Jambul Complex and Queensbay Mall. The customers were asked to answer the questionnaires at a counter after completion of a shopping. The study experienced difficulty in answering the questionnaire because of poor cooperation from the mall shoppers, which most of them are walk away and just take the questionnaire without answering it. As a result of that, only the responses of 100 respondents were received a total of 120 questionnaires were returned and 100 were analyzed respectively. This indicated 60% return and 50% response rates respectively. Twenty (20) questionnaires were rejected i.e. not included in the analysis because of discrepancies in the responses and/or majority of the items in the questionnaire were left unattended or unanswered. A warp3 PLS regression algorithm was used in the data analysis. The data were bootstrapped to 999 times from the original samples with replacement. Bootstrapping approach generated an empirical representation of the sampling distribution of the effect by treating the original sample size as a representation of the population in the miniature; this is repeatedly resample during analysis as a means of copying the original sampling process [37].

3.1 Measurement Model for the Research Constructs

The reliability of the survey instrument indicated an extent to which the constructs or dimensions are without bias (free from error) and hence ensures consistencies of measurement across the various items

in the instrument [38]. The composite reliability coefficient, (CRC) cronbach's alpha, (CA) factor loading (FL) and average variance extracted (AVE) are presented in table 1.0

3.1.1 Composite Reliability

Tables 1.0 presents the composites reliability coefficients for the latent variables; location of the mall (LOC) had a CRC of 0.827, then the facilities and services in the mall (FAC) had a CRC of 0.906 and the aesthetics and services installed in the mall (AES) had a CRC of 0.878, then the quality of structures in the mall (QUA) had a CRC of 860, the composite reliability coefficient of the customer satisfaction (SAT) had a CRC of 0.941 which are regarded as excellent and acceptable [38][39][40]. The survey instruments are regarded as internally consistent.

3.1.2 Cronbach's Alpha

Table 1.0 presents the Cronbach's Alpha Coefficients (CA) for the latent variables; location of the mall (LOC) had a CA of 0.760, then the facilities and services in the mall (FAC) had a CA of 0.883, the CA of mall aesthetics and design (AES) was 0.840, then the CA of mall quality of structures (QUA) was 0.796 and lastly the CA of customer satisfaction (SAT) was 0.916 all fall within the acceptable limit/benchmark of 0.70 and all regarded as excellent and acceptable according to Field [39].

3.1.3 Factor Loading

Table 1.0 presents the model factor loadings. The factors under location of the mall had loadings between 0.405-0.780 the minimum value was above the acceptable level of 0.4 and the maximum value above the preferred level of 0.7 [41]. Similarly the factor loadings of facilities in the mall had loadings between 0.509-0.827 the minimum value was above the acceptable level of 0.4 and the maximum value above the preferred value of 0.7 [41]. the factor loadings in relation to the aesthetics and design in the mall had loadings between 0.551-0.794 with the minimum loading above the acceptable level of 0.4 and the maximum above the preferred level of 0.7 [41]. The factor loadings with respect to the quality of structures in the mall were between 0.672-0.797, with the minimum loading above the acceptable level of 0.4 and the maximum loadings above the preferred level of 0.7 [41]. The factor loadings of the construct customer satisfaction were between 0.857-0.925 with the minimum and the maximum loadings above the preferred level of 0.7 according to Hulland [41].

3.1.4 Average Variance Extracted (AVE)

Table 1.0 presents the average variance extracted (AVE) for the research constructs. The construct location of the mall had AVE value of 0.705 which is greater than the acceptable threshold of 0.4, so the convergent validity is confirmed [42][43][44]. The AVE in respect to the construct facilities and services in the mall had an AVE of 0.690, which is greater than the acceptable level of 0.4, so the convergent validity is confirmed [42][43][44]. The AVE value with respect to the aesthetics and design of the mall had a value of 0.743 well above the acceptable value of 0.4; this confirmed the convergent validity [42][43][44]. The AVE with respect to the quality of structures in the mall was 0.894 well above the acceptable limit of 0.4; this confirmed the convergent validity on the quality of structures in the mall [42][43][44]. The AVE with respect to customer satisfaction was 0.624 well above the acceptable limit of 0.4; this confirmed the convergent validity on the customer satisfaction [42][43][44].

Table 1.0: Measurement Model for the Research Constructs

Model Construct	Measurement Item	Factor Loading	CRC	Cronbach's Alpha	AVE
LOC	LOC 1	0.600	0.827	0.760	0.705
	LOC 2	0.780			
	LOC 3	0.734			
	LOC 4	0.719			
	LOC 5	0.405			
	LOC 6	0.659			
	LOC 7	0.595			
	LOC 8	0.635			
FAC	FAC 1	0.509	0.906	0.883	0.690
	FAC2	0.626			
	FAC 3	0.737			
	FAC 4	0.806			
	FAC 5	0.558			
	FAC 6	0.827			
	FAC 7	0.607			

	FAC 8	0.792			
	FAC 9	0.694			
	FAC 10	0.812			
AES	AES 1	0.628	0.878	0.840	0.743
	AES 2	0.724			
	AES 3	0.794			
	AES 4	0.762			
	AES 5	0.761			
	AES 6	0.554			
	AES 7	0.551			
	AES 8	0.703			
QUA	QUA 1	0.729	0.860	0.796	0.894
	QUA 2	0.797			
	QUA 3	0.735			
	QUA 4	0.672			
	QUA 5	0.777			
SAT	SAT 1	0.857	0.941	0.916	0.624
	SAT 2	0.918			
	SAT 3	0.925			
	SAT 4	0.874			

CRC = composite Reliability Coefficient, AVE = Average Variance Extracted

3.2 Operationalisation of the Constructs

The five researches constructs i.e. location of a mall, facilities and services installed in the mall, aesthetcs and design of the mall, quality of structures constructed in the mall and customer satisfaction were all measured using a five-point Likert Scale. Likert Scale is concerned with uni-dimensionlity that makes sure all factors measure the same thing and is the most popular scaling procedure in use today [45][46]. Customer satisfaction being the dependent construct was measured using a five-point Likert Scale, with the scale defining the perception of customers on the architectural features that attract the customers. The scale ranges from strongly disagree to strongly agree. As shown below:-

Strongly Disagree: refers to architectural features that extremely do not satisfy needs of a customer.
Disagree: refers to architectural features that do not satisfy the needs of a customer.
Neutral: refers to architectural features that neither satisfy nor dissatisfy the needs of a customer.
Agree: indicates where the architectural features satisfy the needs of a customer.
Strongly Agree: implies where the architectural features extremely satisfy the needs of a customer.

3.3 Content Validity

Sekaran and Bougie [38] stated that content validity is used in research to validate the research instrument used for a research study. Content validity is used to assess how well an idea or concept is represented by the items in a questionnaire. The content validity for this study was conducted by requesting experts in the field of development of shopping malls and some selected customers and academics on the suitability of the items in the questionnaire. After thorough discussions, the experts validated, verified and agreed on 8 items under location of a mall, 10 items under facilities and services installed in a mall, 8 items under the aesthetics and design of a mall, 5 items under quality of structures constructed in a mall and 4 items under customer satisfaction.

3.4 Method of Data Analysis

The data obtained for this study were analyzed with warp partial least square-structural equation modeling software algorithm (Warp PLS-SEM 3.0v). The statistical package is used for the analysis of collected data. The software is one of the powerful software for data analysis and has an advantage of providing p-values based on the structure of the research model [44]. responses were encoded and programmed into a system using numbers to represent real data collected, this helps to analyze the data efficiently and effectively [38][39][45][46] and are entered and run into the warp PLS-SEM software automatically.

DATA ANALYSIS AND RESULTS

The analysis and discussion of the data obtained for this study are presented below:

4.1 Model Fit Indices

A warp PLS-SEM algorithm version 3.0 was used in the analysis of the collated data. The collected data were bootstrapped up to 999 times with replacement. The general model fit indices provided three indices: average path coefficient (APC) = 0.206 which was significant at p=0.006 level of significance, the average R-squared (ARS) = 0.421 which was significant at p=0.049 level of significance, and the average variance inflation factor (AVIF) =2.289 and was less than 5; this was considered well. The coefficient of determination R^2 = 0.42 as shown in figure 1.0 below. This is regarded as substantial and indicated that 42% of the variance was explained by the model [47].

4.2 SEM Model for the Relationship between cost factors and technical performance

Figure 1.0 presents the structural model for the relationship between customer satisfaction (SAT) and architectural features that attract customers satisfaction in shopping malls. The architectural features being the independent constructs comprising of mall location (LOC), facilities installed in the malls (FAC), aesthetics and design of the malls (AES) and the quality of structures constructed in the malls (QUA). The customer satisfaction was the dependent construct. The structural model beta coefficient value between customer satisfaction (SAT) and the location of the mall (LOC) was β= 0.28 at p_{value}=0.01 which was significant at p_{value}=0.05 level of significance. The structural model beta coefficient between customer satisfaction (SAT) and the facilities in the mall (FAC) was β=0.37 at p_{value}=0.04 significant; this was significant at p_{value}=0.05 level of significance. The structural model beta coefficient between customer satisfaction (SAT) and the aesthetics and designs of the mall (AES) was β= 0.13 at p_{value}=0.29 which was not significant at p_{value}=0.05 level of significance. The structural model between customer satisfaction (SAT) and the quality of structures in the mall was β= -0.05 at p_{value}=0.41 which was not significant at p_{value}=0.05 level of significance. The structural model indicated that the beta coefficient between customer satisfaction and location of the mall and also the beta coefficient between customer satisfaction and the facilities installed in the mall were significant at p=0.05 level of significance. Whereas others beta coefficients of aesthetics and quality of structures were not significant with the customer satisfaction at p=0.05 level of significance.

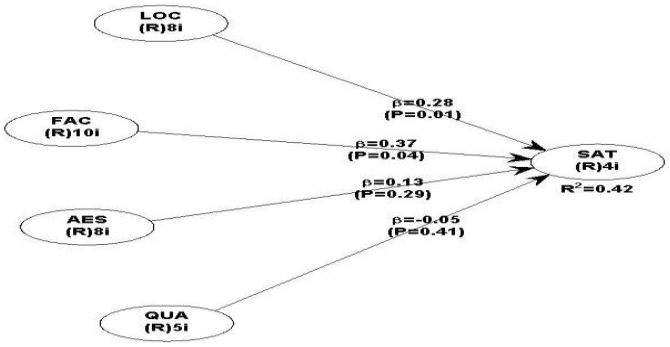

Figure 1.0: SEM Model for the Relationship between customer satisfaction (SAT) and architectural features that attract customer satisfaction

4.3 Model Path Coefficients

Tables 2.0 and 3.0 present the path coefficients of the model and Pvalues respectively, the path coefficient between SAT and LOC was β = 0.282 with a pvalue=0.014, which indicated that the path was significant at p≤0.05 level of significance. The path coefficient between the SAT and FAC was β = 0.368 with a pvalue=0.039 which was also significant at p≤0.05 level of significance. The path coefficient between the SAT and AES was β = 0.128 with a pvalue=0.287 which was not significant at p≤0.05 level of significance. The path coefficient between SAT and QUA was β = -0.047 with a pvalue=0.407 which was

not significant at p≤0.05 level of significance. This indicated that LOC and FAC have significant model path with SAT.

Table 2.0: Model Path Coefficients

	LOC	FAC	AES	QUA
SAT	0.282	0.368	0.128	-0.047

Table 3.0: P_{values} of Path Coefficients

	LOC	FAC	AES	QUA
SAT	0.014	0.039	0.287	0.407

4.4 Standard Errors of the Path Coefficients

Table 4.0 presents the standard errors of the path coefficients, the standard error between SAT and LOC was *0.126*, then the standard error of the path coefficient between SAT and FAC was *0.207*, the standard error between SAT and AES was 0.287 and lastly the standard of the path coefficient between SAT and QUA was *0.200*.

Table 4.0: Standard Errors of the Path Coefficients

	LOC	FAC	AES	QUA
SAT	0.126	0.207	0.227	0.200

4.5 Effects Sizes for Path Coefficients

Table 5.0 present the effect sizes (f2) for the path coefficients between the independent constructs and the dependent construct. Effect sizes is the change in R-squared (R2) which is explored to see whether the impact of an independent construct on a dependent construct has substantive impact, (f2) and this is automatically computed by the warp PLS-SEM software. The effect size between SAT and LOC was 0.152, which was regarded as medium according to Cohen [47]. The effect size between SAT and FAC was 0.219, which was regarded as medium according to Cohen [47]. The effect size between SAT and AES was 0.069 regarded as small according to Cohen [47]. The effect size between SAT and QUA was 0.019 which was regarded as small according to Cohen [47].

Table 5.0: Effects Sizes for Path Coefficients

	LOC	FAC	AES	QUA
SAT	0.152	0.219	0.069	0.019

4.6 Latent Variables Correlations

Table 6.0 and table 8.0 present the correlations of the latent variables between dependent and independent constructs and their P_{values} respectively. In table 7.0 the average variance extracted (AVE) for SAT was *0.624*, LOC *0.705*, FAC *0.690*,AES 0.743 and QUA was *0.894 AVEs*. This indicated that the AVEs for the five variables are all well above 0.40, which were regarded as adequate [44][48]. The correlation coefficient between SAT and the LOC was R = 0.648 significant at $p<0.001$ level of significance. This indicated that location of a mall had a substantial positive relationship with the customer satisfaction [47]. The correlation coefficient between SAT and the FAC had R= 0.594 at $p<0.001$ level of significance also indicated that facilities and services provided in the mall had a substantial positive relationship with the customer satisfaction [47]. The correlation coefficient between SAT and AES had $R = 0.383$ at $p<0.001$ level of significance this furthermore indicated that the aesthetics and design of a mall had substantial positive relationship with the customer satisfaction [47]. The correlation coefficient between SAT and QUA had R=0.537 which indicated a substantial positive relationship between quality of structures in the mall and the customer satisfaction [47].

The results also indicated some relationships among the independent variables. The correlation coefficient between LOC and FAC was $R= 0.655$ *which was significant* at $p<0.001$ level of significance indicated that location of a mall had a substantial positive relationship with the facilities installed in the mall [47]. The correlation coefficient between LOC and AES was $R= 0407$ significant at $p<0.001$ level of significance; this indicated a substantial positive

relationship existed between location of the mall and its aesthetics and design [47]. The correlation coefficient between LOC and QUA was *R= 0.536* significant at *p<0.001* level of significance which indicated a substantial positive relationship between the location of the mall and the quality of the constructed structures [47]. The correlation coefficient between FAC and AES was R=0.535 significant at p<0.001 level of significance. This indicated a substantial positive relationship between the facilities installed in the mall and aesthetics and design of the mall [47]. The correlation coefficients between FAC and QUA was R= 0.502 which was significant at p<0.001 level of significance. This indicated a substantial positive relationship between facilities installed and the qualities of structures in a mall [47]. The correlation coefficient between AES and QUA was R=0.360 significant at p<0.001 level of significance. This indicated that aesthetics and design had a substantial positive relationship with quality of structure constructed in the mall [47]. The predictive relevance of the model Q^2=0.406 which is > 0 and therefore, the model has predictive relevance [49].

Table 6.0: Latent Variables Correlations

	SAT	LOC	FAC	AES	QUA
SAT	0.654				
LOC	0.648	0.705			
FAC	0.594	0.655	0.690		
AES	0.383	0.407	0.535	0.743	
QUA	0.537	0.536	0.502	0.360	0.894

Note: Square Roots of Average Variances Extracted (AVE's) shown on diagonal

Table 7.0: P_{values} for Latent Variables Correlations

	SAT	LOC	FAC	AES	QUA
SAT	1.000				
LOC	<0.001	1.000			
FAC	<0.001	<0.001	1.000		
AES	<0.001	<0.001	<0.001	1.000	
QUA	<0.001	<0.001	<0.001	<0.001	1.000

4.7 Location of Mall

Figure 2.0 presents a non-linear graph of the relationships between the SAT and LOC. The data points and the regression line shows almost non-linear line rising from left to right sides of the graph with the coordinate's points (x_0, y_0). The coordinate's points lies between (-5.20, -3.30) and rises up to coordinates (2.35, 1.40) . This indicated that the non-linear line slopes up and physically shows non-relationship between SAT and LOC. The graph indicates that location of a malll had a positive but non-linear relationship with the customer satisfaction. The reasons for the non-linear positive relationship between location of the mall and the customer satisfaction was possibly the customers preferred very close shopping malls near residential houses.

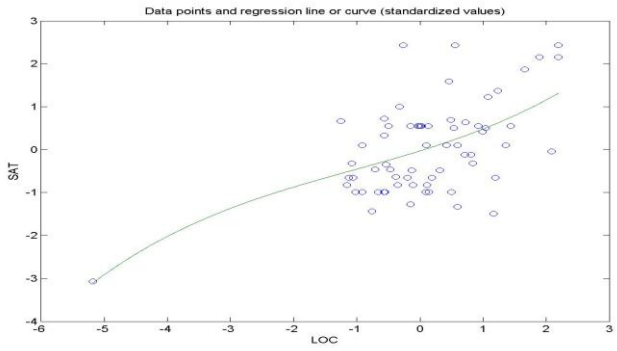

Figure 2.0: Non-Linear Graph of SAT against LOC

4.8 Facilities Installed in the Shopping Mall

Figure 2.0 presents a clear non-linear graph of the relationships between the SAT and FAC. The data points and the regression line shows clearly non-nonlinear straight line rising from left hand side of the graph to the right hand side of the graph with the coordinate's points (x_0, y_0). The coordinate's points lies between (-5.40, -3.20) and slopes up to coordinates (1.40, 1.30) . The graph physically indicated that there is a non-linear relationship between SAT and FAC. The reasons for that was possibly that customers preferred shopping malls that have different and alternative facilities like lifts, conveyors, escalators, laundary services etc. than malls that have only stair case and lack modern facilities.

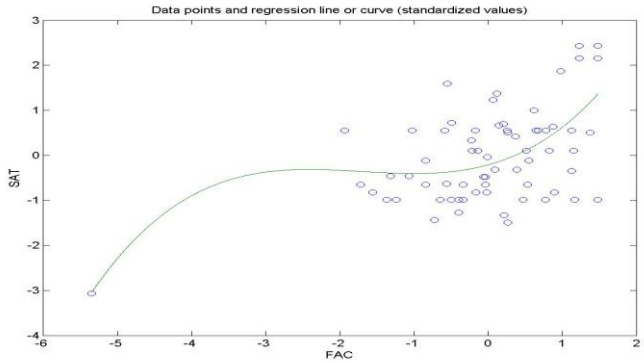

Figure 3.0: Non-Linear Graph of SAT against FAC

4.9 Aesthetics and Design of Shopping Mall

Figure 2.0 presents a clear non-linear graph of the relationships between the SAT and AES. The data points and the regression line physically shows a non-straight line sloping up left to right hand sides of the graph with the coordinate's points (x_0, y_0). The coordinate's points lies between (-5.30, -3.20) and slopes up to coordinates (1.80, 1.10) . This indicated that there is a non-linear relationship between SAT and AES. The reaons for that was possibly due to the reasons that customers like buildings with modern architectural designs, modern aesthetics attract customers than a building without such designs.

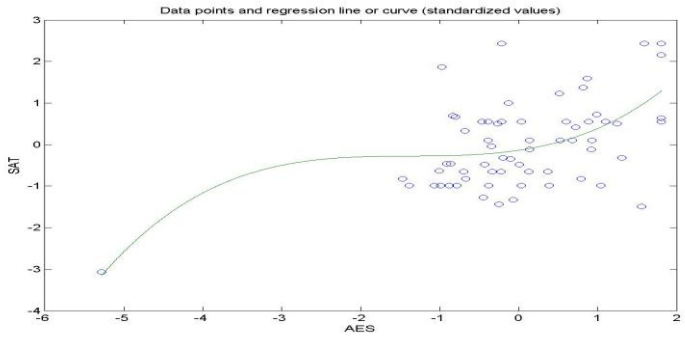

Figure 4.0: Non-Linear Graph of SAT against AES

4.10 Quality of Structures Constructed in the Mall

Figure 2.0 presents a non-linear graph of the relationships between the SAT and the QUA. The data points and the regression line physically show non-straight line sloping up from the left to the right hand sides of the graph with the coordinate's points (x_0, y_0). The coordinate's points lies between (-4.0, 2.50) and slopes up to coordinates (1.90, 1.00) . This indicated that there is a non-linear relationship between SAT and QUA. The possibility of the non-linear relationship between SAT and the QUA was due to the facts that customers were attracted by the qualities of the structures constructed in the shopping malls like basement canteens, storeys car parks, structural steel roof trusses etc.

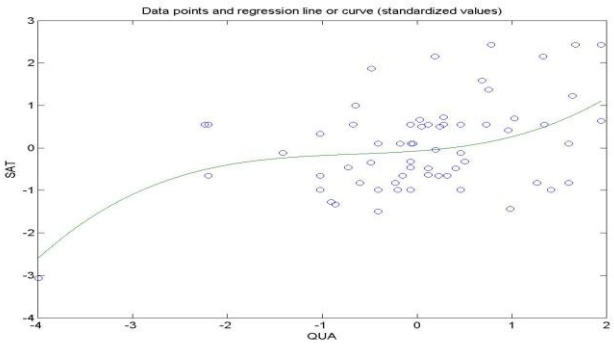

Figure 5.0: Non-Linear Graph of SAT against QUA

DISCUSSION OF THE RESULTS

Warp PLS-SEM 3.0v was used in achieving the objectives of this study on influences of architectural features that attract customers' satisfaction in the Malaysian shopping malls. Extensive literature reviews were conducted and the four architectural factors were identified that attract customers to shop in a mall. The architectural factors identified were: location of the mall, facilities and services installed in the mall, aesthetics and design of the mall and the quality of structures constructed in the mall [3][4][27][30]. The results of the analysis showed that the model path coefficient between customer satisfaction and location of the mall was significant. Also, the relationship between customer satisfaction and the facilities and services installed in the mall was significant. The structural model relationship between the customer satisfaction and the aesthetics and design and also between customer satisfaction and the quality of structures constructed in the mall was statistically not significant. This is possibly that location of the mall and the facilities and services installed in the malls attract customers more than the modern architectural aesthetics and the quality of the structures constructed in the mall. In the other hand, the correlation coefficients (R) indicated substantial positives relationships between the customers' satisfactions and the architectural features that attract customers' satisfactions to shopping malls in Malaysia. All the identified four factors had substantial positive relationships with the customers' satisfactions. Also the correlation coefficients among the independents variables (Location of the mall, facilities and services installed in the mall, aesthetics and design of the mall

and the quality of structures constructed in the mall) had a substantial positive relationship with each other. The graphical representations of the relationships further indicated a substantial relationship exists between customer satisfactions and the four factors (location of the mall, facilities and services installed in the mall, aesthetics and design of the mall and quality of structures constructed in the mall) but the graphs further show that the relationships were positively non-linear. These explain the kind of the relationships that exist between dependent and the independent variables.

CONCLUSIONS AND RECOMMENDATIONS

This study identified and assessed the influences of architectural features that attract customers to shopping malls. The factors identified were location of the mall, facilities and services installed in the mall, aesthetics and design of the mall and quality of structures constructed in the mall. Two factors (location of the mall, facilities and services installed in the mall) had significant beta coefficients with the customer satisfaction. This indicated that the factors contributed to the attraction of the customers' satisfaction to the shopping malls. The other two factors (aesthetics and design of the mall and quality of structures constructed in the mall) had non-significant beta coefficients with the customer satisfaction which indicated that the factors do not contribute significantly to the attraction of customers to the shopping malls. The correlation coefficients indicated substantial positive relationships between customer satisfaction and the architectural features that attract customers' satisfactions in shopping malls. This clearly indicated that the customers in Malaysia consider these factors in the choice of a place (mall) to shop. Also, the correlation coefficients show positive substantial relationships among the independent variables. The graphical representations of the relationships further explained that the kind ot the relationships that exists between customer satisfaction and the independent variables were positively non-linear. The study therefore, recommends the developments of shopping malls close to residential houses were customers could easily walk a short distances for shopping. The facilities and services installed in shopping malls attract customers; the developers of shopping mall should consider the design and installation of modern facilities like conveyors, elevators, lifts etc. while designing and constructions of shopping malls.

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