AENSI Journals

Australian Journal of Basic and Applied Sciences

ISSN:1991-8178

Journal home page: www.ajbasweb.com

The Relationships Among Service Personal Value, Service Value And Service Quality In Higher Education Service Delivery

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ARTICLE INFO

Article history:
Received 30 September 2014
Received in revised form
17 November 2014
Accepted 25 November 2014
Available online 6 December 2014

Key words:
Service personal values, service quality, and service value.

ABSTRACT

Malaysia has been recognized as an international students' higher education destination. The issue of ensuring a positive international students' experience in higher education service delivery has gained enormous attention. The scholars affirm that service evaluation implies customer involvement at different phases of human interactions include cognitive, affective and behavioral responses. Among these phases, the customers' cognitive is the crucial phase of service evaluation. Drawing on theoretical backgrounds, the customers' cognitive are categorized into three abstraction levels namely, Service Personal Values (SPV); Service Value (SV); Service Quality (SQ). Previous research claims that there are interrelationships among customers' cognitive levels. However, the research specifically examines the role of postgraduate international student's cognitive levels and its interrelationships in higher education are still limited.Therefore, the main purpose of this research is to test the relationships among SPV, SV and SQ in evaluating educational services. Results based on the data collected from 347 postgraduate international students at Malaysian research universities supportedthe causal relationships among customers' cognitive levels. The results reveal that SPV has a significant effect on SQ and SV. However, SPV has stronger effect on SQ than SV. The results also showed that SQ has a significant effect on SV. In this research, all relationships appeared to be significant as conceptualized according to the theory.

To Cite This Article: Dr Mass Hareeza Ali and SitiNurhidayaahTukimin, Wan Salmuni Wan Mustaffa., The Relationships Among Service Personal Value, Service Value And Service Quality In Higher Education Service Delivery. ***Aust. J. Basic & Appl. Sci.,*** *8(23): 329-335, 2014*

INTRODUCTION

Service in higher education specifically involves customer contact or customer participation. Fitzsimmons & Fitzsimmons (2008) affirm that customers are the crucial inputs who participate in the service delivery. In general, the higher education deals with different group of customers or stakeholders including students, parents, industries, faculty staffs and tax payers (Madu & Kuei, 1993). Out of these customers, students are considered as primary customer who receives the educational services (Wiklund&Wiklund, 1999; Pariseau& McDaniel, 1997; and Lewis & Smith, 1994). The role of student as the main customer has shifted the power in making decision from service provider to students (Eriksen, 1995).

Excellent service could be produced based on superior evaluation towards the service delivery (Abdullah, 2005, 2006; Spanbauer, 1995; and Cronin & Taylor, 1992). Service evaluation implies customers' involvement at different phases of human interactions including cognitive, affective and responses (Edvardsson, 2005; LaSalle &Brittion, 2003; Ng & Forbes, 2009; and Johnston & Clark, 2001). Among these phases, customers' cognitive is the crucial phase of product or service evaluation (Gutman, 1982; Zeithaml, 1988; and Rosen &Greenle, 2001). However, the concept of customers' cognitive in service context is still far of its maturity and lack of theoretical perspective that support the practices (Lages&Fernandes, 2005). Therefore, the main purpose of this research is to test the relationships among postgraduate international students' cognitive levels in evaluating higher education service on the basis of theoretical perspectives.

Services are a global business and more firms than ever are selling services (Szymanski, 2001). Services that rendered to customers are more risky purchases than products, thus, they are more cautious in making decisions of selecting the superior service (Rosen &Greenle, 2001). The means-end chain (MEC) theory explains that the information is retained in customer's memory at hierarchical levels of abstraction (Gutman,

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1982). Lages&Fernandes (2005) have adapted the MEC model from Ziethaml (1988) to understand the customers' cognitive structure in service context as shown in Figure 1. Service information is retained in the customers' memory at four levels of abstraction. At the lowest level, service attributes refers to functional benefit or service attributes (Young &Feigin, 1975; Olson & Reynolds, 1983). The customers evaluate the service quality through the variety of attributes such as intangible and tangible (Gutman, 1991 and Parasuraman*et al.*, 1988, 1991). At the third level, service value is defined as a cognitive trade-off between perceptions of quality and sacrifice (Cronin *et al*., 1997 and Zeithaml, 1988). Finally, at the fourth level, service personal values are beliefs or conceptions about end-goals or desirability (Rokeach, 1973).

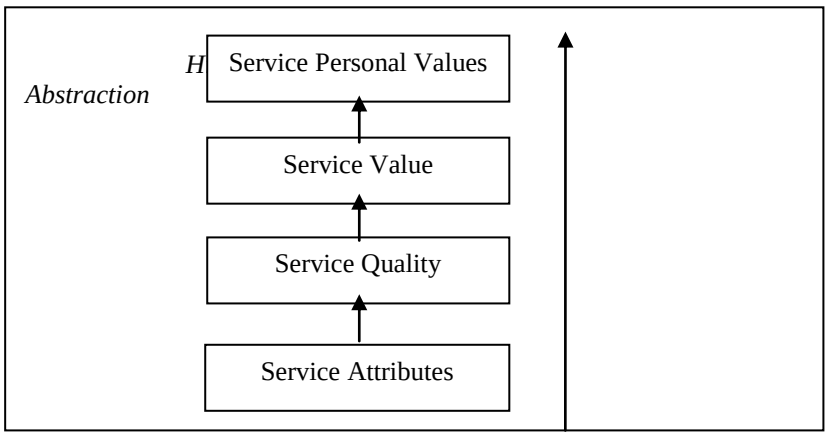

Fig. 1: The means-end chain model in service context
(Source: Lages&Fernandes, 2005, p. 1563)

Although the lower three levels have been extensively investigated, particularly through the SERVQUAL, SERVPERF and Grönroos model (Parasuraman*et al*., 1985, 1988, 1991; Cronin & Taylor, 1994; Grönroos, 1984), there is a clear research gap at the highest level of abstraction (Lages&Fernandes, 2005; Liu, Ma & Zhao, 2007; Thuy&Hau, 2010; Durvasula, Lysonski&Madhavi, 2011). The limitation of investigating the highest level is probably due to its individuality and complexity in comparison to all of the other three (Lages&Fernandes, 2005). Yet, the researchers rarely explore and examine the role of personal values in service setting (Darvasula, Lysonski&Madhavi, 2011).

The Conceptual Framework:

Figure 2 illustrates the conceptual framework. The conceptual framework is developed on the basic of theoretical standpoint and literature gaps. The Means-End Chain (MEC) cognitive structure explains that the information received by customer is stored and evaluated in the memory at several of abstraction levels (Zeithmal, 1988 and Lages&Fernandes, 2005). The abstraction levels are service personal values (the highest level of abstraction), service value, service quality, and service attributes (the lowest level). However, service attributes is found as a part of service quality because the customers evaluate the service quality through the various attributes (Gutman, 1991; Parasuraman*et al.*, 1985, 1988, 1991). In this research, the customers' cognitive are presented with three abstraction levels, namely service personal values (SPV), service value (SV) and service quality (SQ) as the lowest level of abstraction. In literature searched, the numbers of empirical research that investigate the interrelationships among customers' cognitive levels particularly in higher education are relatively limited.

Methodology:

This research was conducted at five Malaysian Research Universities (RU), namely Universiti Malaya (UM), UniversitiSains Malaysia (USM), UniversitiKebangsaan Malaysia (UKM), Universiti Putra Malaysia (UPM) and UniversitiTeknologi Malaysia (UTM). The target respondents were postgraduate international students. The selection of research universities as the research setting is due to the huge numbers of postgraduate international students' enrolment. The statistics released by MoHE (2013) shows that 73% of postgraduate international students' enrolment is at Research University.

This research involves postgraduate international students at five Malaysian research universities. The required sample size for this research was 375 students. The sample size determination is based on several rules of thumb including the estimation method for sample size in Structural Equation Modeling (SEM), the sample size calculator, and table for determining sample size from a given population N. This research was employed the stratified sampling technique. The postgraduate international students at each research university were divided into three geographical regions stratums, namely Asia, Middle East and Africa.

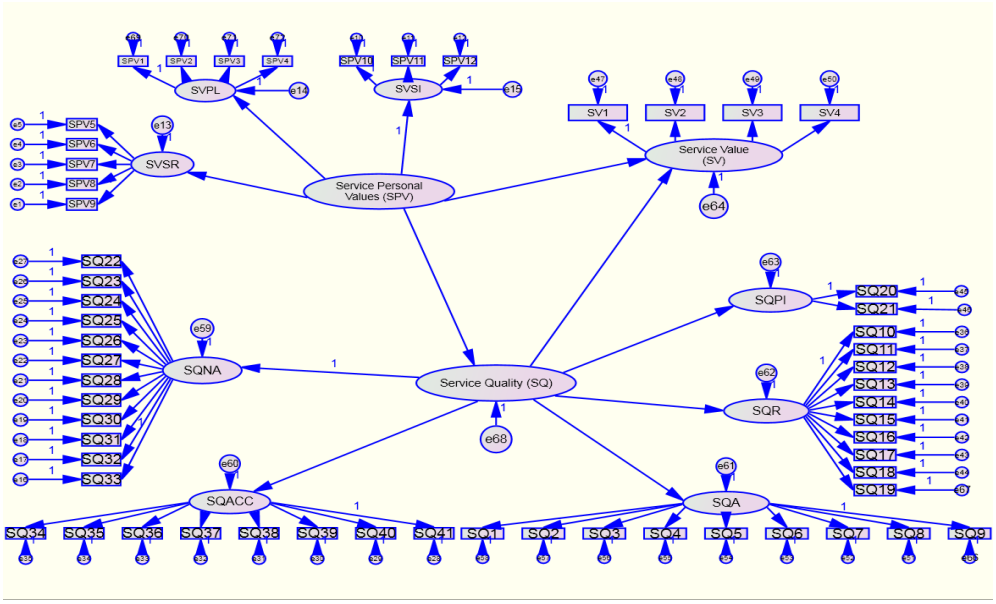

Fig. 2: The research conceptual framework

The online survey was employed to gather data. The previous research reveals that an average of response rate for online survey is 33% (Nulty, 2008). The questionnaires were emailed three times from the initial sample size (375/x=33%). In order to achieve at least 33% of response rate, 1136 questionnaires were emailed to postgraduate international students at five research universities according to stratification characteristics. The descriptive statistics of the sample are listed in Table 1.

Table 1: Descriptive statistics of sample characteristics

Demographics		Frequency	Percentage (%)
Gender			
	Male	200	57.6
	Female	147	42.4
Age			
	20-25 years	17	4.9
	26-30 years	57	16.4
	31-35 years	148	42.7
	>36 years	125	36.0
Marital status			
	Single	144	41.5
	Married	203	58.5
Geographical region			
	Asia	97	28.0
	Middle East	191	55.0
	Africa	59	17
Present University			
	Universiti Malaya (UM)	73	21.0
	UniversitiSains Malaysia (USM)	50	14.4
	UniversitiKebangsaan Malaysia (UKM)	57	16.4
	Universiti Putra Malaysia (UPM)	95	27.4
	UniversitiTeknologi Malaysia (UTM)	72	20.7
Education level			
	Master	154	44.4
	Doctoral	193	55.6
Semester in the present university			
	2nd semester	34	9.8
	3rd semester	73	21.0
	4th semester	82	23.6
	5th semester	76	21.9
	6th semester	46	13.3

	Over 6th semester	36	10.4

The online questionnaire contains the statements regarding the latent variables and the respondents' demographic profile. The latent variables include SPV, SV and SQ was operationalized based on the adapted scales with an appropriate modification relevant to higher education setting. The questionnaire comprised of four sections where intended to assess the level of the postgraduate international students' cognitive towards their service evaluation in higher education and respondents' demographic profile.

The adapted SERPVAL scale (Lages&Fernandes, 2005) was used to operationalize SPV. SERPVAL is a multidimensional scale that specifically developed to operationalize customer evaluation behind the service usage based on their individual values. SERPVAL was operationalized through three broad areas of individual dimensions, namely i) personal value to peaceful life (SVPL), ii) service value providing social recognition (SVSR), and iii) service personal values to social recognitions (SVSI). Twelve adapted SERPVAL items (statements) were used to assess the higher education service evaluation based on the personal values that PIS wish to achieve in their lives. SV was operationalized with four modified items by Zeithaml (1988) and Cronin *et al* (1997). The adapted items assess the utility of services among PIS as a result from the trade-off between benefits and sacrifices. SQ was operationalized using HedPERF scale developed by Abdullah (2004; 2006). HedPERF is multi-dimensional scale that specifically developed to capture the attributes of service quality within the higher education sector. 41 items extracted from original HedPERF scale were used to embrace different aspects of higher education service offering. These items were categorized into five dimensions, namely Academic Aspects (SQA), Reputation (SQR), Program Issues (SQPI), Non-academic Aspects (SQNA), and Access (SQACC). There is no modification required as the items were generated and validated within the higher education context. All scales were measured using seven-point likert-scale ranging from (1) Strongly Disagree…to (7) Strongly Agree.

RESULTS AND DISCUSSION

The structural equation modeling (SEM) technique was utilized to empirically test the hypotheses developed (Hair *et al*., 2010). In this research, the model development approach was applied that consists two main parts of data analysis namely, measurement model and structural model. The measurement model demonstrates the relationships between response items (observed variables) and their underlying latent variables. The structural model demonstrates the correlational and causal dependencies among the measurement model based on the hypothesized inter relationships among them (Zainudin, 2012).

Assessment of Multivariate Normality:

In this research, model developed were tested using Maximum Likelihood (ML) estimation using AMOS 18.0. Two conditions of ML include i) data should be normally distributed; and ii) the scale of the observed variables should be continuous (Byrne, 2010; Hair *et al*, 2010). Normality of data becomes critically important in conducting SEM analyses using AMOS (Arbuckle, 2007; Byrne, 2010). Therefore, before the analyses of the data are carried out, it is crucial to check that this criterion has been met. Prerequisite to the assessment of multivariate normality is the need to check for skewness and kurtosis values in the data set. The cut-off point of skewness and kurtosis in assessing the multivariate normality are between ± 2 range and < 7, respectively (Byrne, 2010). As reported in AMOS output, all skewness and kurtosis values fall within the normally distribution range. Since the variables are continuous and the data is normally distributed, hence ML estimations are used to analyze the measurement model and structural model.

Measurement Model Analysis:

In this research, each measurement model (latent construct) was validated to assess the unidimesionality, validity and reliability (Hair *et al*, 2010; Zainudin, 2012). Confirmatory Factor Analysis (CFA) was performed for each latent construct involved in a model. With CFA, any item that does not fit the measurement model due to low factor loading (<0.60) should be removed. The fitness Indexes must fulfill the following required level:

Table 2: Index category and the level of acceptance for every index

Name of category	Name of Index	Level of acceptance
1. Absolute fit	Chisq (χ^2)	P > 0.05
	RMSEA	RMSEA < 0.08
2. Incremental fit	CFI	CFI > 0.90
	TLI	TLI > 0.90
3. Parsimonious fit	Chisq/df (χ^2 / df)	χ^2 / df < 5.0

In this research, two latent variables are represented as second-order factor model namely, SPV and SQ. The second order CFA is performed to confirm that the theorized construct in a study loads into certain number of underlying latent sub-constructs (Zainudin, 2012).

Australian Journal of Basic and Applied Sciences, 8(23) Special 2014, Pages: 329-335

The main objective of this research is to test the relationships among customers' cognitive levels in higher education. Theoretically, the customers' cognitive levels are categorized into three abstraction levels namely, Service Personal Values (SPV); Service Value (SV); Service Quality (SQ). The previous research has been intensively investigated the concept of SQ in service context. However, the research specifically examines the role of SPV and its relationships among SQ and SV in higher education is still limited. Thus, this research tested the effect of SPV on SQ and SV, and also the effect of SQ on SV. There are several findings reported as follows.

First, it is hypothesized that SPV has significant and direct effect on SQ. In this research, SPV and SQ are treated as second-order factor model. The results of CFA measurement models indicate that both SERPVAL and HedPERF scale are achieved the validity and reliability with high fitness indexes. Specifically, SPV is found to have the greatest effect on SQ (β =0.795). This implies that the evaluation of service quality will be significantly influenced by the higher service personal values embraced by the PIS include the values of peaceful of life, social recognition, and social integration. This finding is supported by Khademalomoum (2012) that reveals the positive relationship between SPV and SQ. SPV is an accurate indicator that allows the service providers to predict the way PIS evaluates the service quality. Second, it is hypothesized that SPV has significant and direct effect on SV. The result of regression weight (β =0.256) indicates that SPV has significant effect on SV. However, the relationship between SPV and SQ has a stronger effect as compared to the relationship between SPV and SV. This might be probably that the relationships between SPV and SV could be addressed with indirect relationship through SQ. As proven by the third hypothesis which SQ has strong significant on SV with β =0.78. Several previous researches such as in banking and telecommunication industry empirically claim the impact of SQ on SV (Tam, 2004; Chen, 2008 and Kuo, Wu & Deng, 2009).

Hypotheses testing for regression weight:

i. The hypothesis testing for the causal effect of SPV on SQ (H1)

As shown in Table 3, the probability of getting a critical ratio as large as 9.458 in absolute value is less than 0.001. The regression weight for SPV in prediction of SQ is significantly different from zero at the 0.001 level (two-tailed). In other words, H1 is supported.

Table 3: The hypothesis testing for the causal effect of SPV on SQ

			Estimate	S.E.	C.R.	P
Service Quality (SQ)	<---	Service Personal Values (SPV)	0.795	0.084	9.458	***

****Indicate a highly significant at p<0.001*

ii. The hypothesis testing for the causal effect of SPV on SV (H2)

As shown in Table 4, the probability of getting a critical ratio as large as 2.279 in absolute value is less than 0.05. The regression weight for SPV in prediction of SV is significantly different from zero at the 0.05 level (two-tailed). In other words, H2 is supported.

Table 4: The hypothesis testing for the causal effect of SPV on SV

			Estimate	S.E.	C.R.	P
Service Value_(SV)	<---	Service Personal Values (SPV)	0.256	0.112	2.279	*0.023*

Significant at p<0.05

iii. The hypothesis testing for the causal effect of SQ on SV (H3)

As shown in Table 5, the probability of getting a critical ratio as large as 5.993 in absolute value is less than 0.001. The regression weight for SQ in prediction of SV is significantly different from zero at the 0.001 level (two-tailed). In other words, H3 is supported.

Table 5: The hypothesis testing for the causal effect of SQ on SV

			Estimate	S.E.	C.R.	P
Service Value_(SV)	<---	Service Quality (SQ)	0.78	0.13	5.993	***

****Indicate a highly significant at p<0.001*

Conclusion:

Results of this research offer several implications for theoretical and practitioner. For theoretical implications, this research empirically evidenced the relationships among customers' cognitive levels in higher education include SPV, SQ and SV. This research also demonstrates the role of SQ as mediator variable between SPV and SV. This research also has important implications for the practitioners. Understanding the concepts, operationalization and the effects among the customers' cognitive levels will assist the service

providers in higher education to implement the effective strategies to manage the students' evaluation towards service rendered.

Beside the implications, this research also has a number of limitations that suggest future research. First, this research focuses on research universities as the research setting. However, there may be differences between the Research University and other types of universities such as Focus University and Comprehensive University. Consequently, the generalizability of the data is somehow limited. Second, the results of the path analysis indicated the indirect relationship between SPV on SV through SQ. However, it has not been investigated in this research. The future research should highlight the crucial of indirect relationship between SPV and SV which enriches the relationships among customers' cognitive levels.

ACKNOWLEDGEMENT

The author is grateful to the Faculty of Economics and Management, University Putra Malaysia for providing the facilities to carry out the research. Special thanks to Malaysian Ministry of Education and all the research universities which involved direct or indirectly in this research.

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