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COGNITIVE, AFFECTIVE AND BEHAVIORAL MODEL OF INTERNATIONAL POSTGRADUATE STUDENTS' EXPERIENCES OF SERVICE DELIVERY IN MALAYSIAN RESEARCH UNIVERSITIES

WAN SALMUNI WAN MUSTAFFA

Thesis Submitted to the Graduate School of Management, Universiti Putra Malaysia, in Fulfillment of the Requirement for the Degree of Doctor of Philosophy

April 2015

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfillment of the requirement for the degree of Doctor of Philosophy

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By

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April 2015

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Faculty : **Graduate School of Management, UPM**

Malaysia has been recognized as a higher education destination for international students. Recently, an issue of ensuring a positive service experience among international students in Malaysian public universities has gained enormous attention. The international students are viewed as the primary customers of higher education. It is important for universities to attract and retain the international students' experience to compete in the global market and enhance university ranking. Consequently, universities need to improve the international students' experience with service delivery rendered, including teaching and learning, research, and administrative. Previous research affirms that the customer experience involves three phases of human interaction, cognitive, affective and behavioral, when evaluating services. The cognitive-affective-behavioral model is often used to explain the concept of customer experience. Nevertheless, this model still does not specify the relevant variables that represent each phase of the customer experience as well as their interrelationships. Therefore, the general objective of this research is to develop a comprehensive model of customer experience by

integrating the theories and knowledge across multiple research areas, including management, consumer behavior, marketing, and higher education.

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Drawing on the theoretical perspectives, the developed model illustrates that each phase of customer experience is represented by relevant variables. The cognitive phase is represented by three variables, namely service personal values (SPV), service value (SV) and service quality (SQ). The affective phase is represented by emotional satisfaction (E-SAC), and behavioral phase is represented by favorable behavioral intentions (FBI). The review of related literature has revealed that the concept of SPV and E-SAC are rarely investigated in the service context. Furthermore, the crucial role of E-SAC as a mediating variable that could enhance the relationship between the cognitive and behavioral phase has also been neglected. Although an attempt has been made to test the relationships among customer experience variables, the previous studies have rarely examined the relationships among the variables simultaneously in one model. Therefore, these limitations have generated specific interest in simultaneously testing the relationships among customer experience variables, including SPV, SV, SQ, E-SAC, and FBI, with E-SAC playing a mediating role in enhancing relationship between the customer' cognitive variables and FBI.

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This research was conducted at Malaysian Research Universities, including Universiti Malaya, Universiti Putra Malaysia, Universiti Kebangsaan Malaysia, Universiti Teknologi Malaysia and Universiti Sains Malaysia. The sample included postgraduate international students (PIS). The data were gathered through online survey. The online questionnaire was randomly sent to PIS emails following the proportionate stratified sampling technique. Overall, 381 usable responses were received and used in the data analysis. The structural equation modeling (SEM) using AMOS 18.0 was performed to test the relationships among the customer experience variables. The findings revealed that the PIS' cognitive variables, including SPV, SV and SQ, lead to E-SAC, which, in turn affect their FBI. Furthermore, this research also demonstrated the mediating role of E-SAC in the relationships between the customers' cognitive levels (SPV, SV and SQ) and FBI. The research findings provide theoretical and practical implications. This

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research will able to enlarge the body of knowledge in service management by developing an integrative model of customer experience with the relevant variables that cover three crucial phases of the customer interactions, including cognitive, affective and behavioral. In addition, this research indentified the concept of SPV and E-SAC that have been rarely investigated in the service context. For practical implication, the introduced variables of customer experience are able to provide a guideline for the universities to manage the service delivery from the international students' point of views.

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Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

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MODEL KOGNITIF, AFEKTIF DAN GELAGAT BAGI PENGALAMAN PELAJAR SISWAZAH ANTARABANGSA DALAM PENYAMPAIAN PERKHIDMATAN DI UNIVERSITI-UNIVERSITI PENYELIDIKAN MALAYSIA

Oleh

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Malaysia dikenali sebagai destinasi pengajian tinggi bagi pelajar antarabangsa. Baru-baru ini, isu pengekalan pengalaman positif dalam penyampaian perkhidmatan dalam kalangan pelajar antarabangsa di universiti awam Malaysia telah menjadi perhatian. Pelajar antarabangsa merupakan pelanggan utama bagi industri pengajian tinggi. Ianya amat penting bagi universiti menarik dan mengekalkan pengalaman pelajar antarabangsa untuk bersaing di peringkat antrabangsa dan meningkatkan kedudukan (*ranking*) universiti. Maka, universiti perlu meningkatkan pengalaman pelajar antarabangsa dalam penyampaian perkhidmatan yang meliputi pengajaran dan pembelajaran, penyelidikan dan pentadbiran. Secara amnya, konsep pengalaman pelanggan adalah unik dan subjektif untuk diukur. Kajian lepas mengatakan bahawa pengalaman pelanggan dalam menilai perkhidmatan melibatkan tiga fasa interaksi iaitu kognitif, afektif dan gelagat. Model kognitif-afektif-gelagat sering digunakan untuk menerangkan konsep pengalaman pelanggan. Namun begitu, model ini masih lemah dalam memperincikan pemboleh ubah-pemboleh ubah yang relevan bagi mewakili setiap fasa pengalaman pelanggan dan hubungannya. Justeru, objektif umum kajian ini adalah untuk membina model

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pengalaman pelanggan yang komprehensif dengan mengintegrasi teori dan pengetahuan yang meliputi pelbagai lapangan iaitu pengurusan, gelagat pelanggan, pemasaran dan pengajian tinggi.

Berdasarkan perspektif teoritikal, model yang dibina menunjukkan setiap fasa pengalaman pelanggan adalah diwakili oleh pemboleh ubah-pemboleh ubah yang relevan. Fasa kognitif diwakili oleh tiga pemboleh ubah iaitu nilai-nilai peribadi perkhidmatan (SPV), nilai perkhidmatan (SV) dan kualiti perkhidmatan (SQ). Fasa afektif diwakili oleh kepuasan emosi (E-SAC), dan fasa gelagat diwakili oleh keinginan bergelagat yang baik (FBI). Ulasan kajian lepas mendedahkan konsep SPV dan E-SAC adalah kurang dikaji dalam konteks perkhidmatan. Tambahan pula, E-SAC berperanan sebagai pemboleh ubah mediator yang mampu meningkatkan hubungan antara pemboleh ubah fasa kognitif (SPV, SV dan SQ) dan FBI. Walaupun terdapat percubaan bagi menguji hubungan antara pemboleh ubah-pemboleh ubah pengalaman pelanggan, numun kajian lepas jarang mengukur hubungan tersebut secara serentak dan menyeluruh dalam satu model. Maka, kekurangan ini telah menjana objektif spesifik kajian untuk menentukan hubungan antara pemboleh ubah-pemboleh ubah pengalaman pelanggan iaitu SPV, SV, SQ, E-SAC dan FBI secara serentak di mana E-SAC berperanan sebagai mediator dalam meningkatkan hubungan antara pemboleh ubah fasa kognitif (SPV, SV dan SQ) dan FBI.

Kajian ini telah dijalankan di Universiti-Universiti Penyelidikan Malaysia iaitu Universiti Malaya, Universiti Putra Malaysia, Universiti Kebangsaan Malaysia, Universiti Teknologi Malaysia dan Universiti Sains Malaysia. Pelajar siswazah antarabangsa telah dipilh sebagai responden kajian. Data telah diperolehi melalui kaji selidik atas talian (*online*). Borang soal selidik atas talian telah diedar secara rawak melalui emel pelajar siswazah antarabangsa mengikut teknik persampelan berstrata. Sebanyak 381 soal selidik telah diterima dan seterusnya digunakan untuk analisis data. Teknik statistik model persamaan berstruktur (SEM) menggunakan AMOS 18.0 telah digunakan untuk menguji hubungan antara pemboleh ubah-pemboleh ubah pengalaman pelanggan. Dapatan analisis menunjukkan bahawa pemboleh ubah kognitif (SPV, SV

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dan SQ) memberi kesan signifikan terhadap E-SAC, dan seterusnya memberi kesan terhadap FBI. Dapatan analisis juga membuktikan peranan E-SAC sebagai pemboleh ubah mediator yang dapat meningkatkan hubungan antara pemboleh ubah fasa kognitif (SPV, SV dan SQ) dan FBI. Dapatan kajian ini turut memberi implikasi secara teoritikal dan praktikal. Kajian ini memperkembangkan lagi ilmu pengetahuan dalam bidang pengurusan perkhidmatan dengan membina model interaktif pengalaman pelanggan beserta pemboleh ubah-pemboleh ubah yang relevan mengikut tiga fasa interaksi pelanggan iaitu kognitif, afektif dan gelagat. Kajian ini turut mengenalpasti kepentingan SPV dan E-SAC yang jarang dikaji dalam konteks perkhidmatan. Bagi implikasi secara praktikal, pemboleh ubah-pemboleh ubah yang diperkenalkan dalam kajian ini dapat dijadikan panduan kepada pihak universiti bagi mengurus penyampaian perkhidmatan mengikut kehendak spesifik pelajar siswazah antarabangsa.

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LIST OF ABBREVIATIONS

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ACV	Attributes-Consequences-Values
AGFI	Adjusted Goodness-of-Fit
AMOS	Analysis of Moment Structures
APT	Association Pattern Technique
AVE	Average Variance Extracted
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CR	Construct Reliability
CRM	Customer Relationship Management
CS	Customer Satisfaction
EDA	Exploratory Data Analysis
EDP	Expectancy Disconfirmation Paradigm
EFA	Exploratory Factor Analysis
E-SAC	Emotional Satisfaction
ETP	Economic Transformation Program
FBI	Favorable Behavioral Intentions
GATS	General Agreement on Trade in Services
GDP	Gross Domestic Product
GFI	Goodness-of-Fit Index
HedPERF	Higher Education Performance
HVM	Hierarchical Value Map
IBM	International Business Machines
IFI	Incremental Fit Index
IPO	Input-Process-Output
KMO	Kaiser-Meyer-Olkin

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LOV	Lists of Values
MCAR	Missing Completely at Random
MEC	Means-End Chain
MI	Modification Indices
ML	Maximum Likelihood
MoHE	Ministry of Higher Education
MTMM	Multi-trait Multi-method
MYR	Malaysian Ringgit
NEAC	National Economic Advisory Council
NHESP	National Higher Education Strategic Plan
NKEA	National Key Economic Area
NNFI	Nonnormed Fit Index
OECD	Organization for Economic Cooperation and Development
PhD	Doctor of Philosophy
PIS	Postgraduate International Students
PNFI	Parsimonious Normed Fit Index
RFI	Relative Fit Index
RMSEA	Root Mean Square Error of Approximation
RMSR	Root Mean Square Residual
RU	Research University
RVS	Rokeach Values System
SDS	Service Delivery System
SEM	Structural Equation Modeling
SERPVAL	Service Personal Values
SERVPERF	Service Performance
SERVQUAL	Service Quality
SMC	Squared Multiple Correlations
SPSS	Statistical Package for the Social Sciences
SPV	Service Personal Values
SQA	Service Quality Academic Aspects
SQACC	Service Quality Accessibility

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SQNA	Service Quality Non-Academic Aspects
SQPI	Service Quality Program Issue
SQR	Service Quality Reputation
SQ	Service Quality
SVI	Schwartz Value Inventory
SVPL	Service Values to Peaceful Life
SVSI	Service Values to Social Integration
SVSR	Service Values to Social Recognition
SV	Service Value
TLI	Tucker-Lewis Index
TQM	Total Quality Management
UKM	Universiti Kebangsaan Malaysia
UK	United Kingdom
UNESCO	United Nations Educational, Scientific and Cultural Organization
UM	Universiti Malaya
UPM	Universiti Putra Malaysia
URL	Uniform Resource Locator
USM	Universiti Sains Malaysia
US	United States of America
UTM	Universiti Teknologi Malaysia
VALS	Values and Lifestyles Systems
VAL	Consumer Value
VIF	Variance Inflation Factor
WTO	World Trade Organization
WOM	Word-of-Mouth

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CHAPTER 1

INTRODUCTION

This chapter gives a brief background of customer experience issues in higher education context. The gaps that the previous research did not address adequately are also covered in the problem statement of this chapter. This chapter also discusses the research objectives, research questions, delimitation, scope of the research, significant of the research, and definition of terms and concepts.

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1.1 The Background of the Research

In today's global knowledge economy, the internationalization of higher education is viewed as a crucial indicator for the universities to obtain recognition and competitive advantage at the international education market (MoHE, 2011; Tham & Kam, 2008). Internationalization has brought the universities into a new stage of educational system characterized by complexity, interconnectedness, and diversity (Sidhu & Singh, 2009). Consequently, several national strategic agendas for

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internationalization in Malaysian higher education have been implemented, including National Higher Education Strategic Plan (NHESP), National Key Economic Area (NKEA) of Education, Tenth Malaysia Plan (2011-2015), and New Economic Model (www.mohe.gov.my; The Economic Planning Unit, 2010; NEAC, 2009). For instance, NHESP was designed to transform higher education within the context of establishing Malaysia as an international hub of excellence for higher education. This transformation will become a foundation towards sustainability for the higher education system beyond 2020 (www.mohe.gov.my).

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The internationalization of higher education is defined as a process of integrating the international and intercultural elements into teaching, research, and other service delivery activities in higher education (Knight, 2007). Researchers affirm that the implementation of internationalization in higher education involves international and intercultural elements, such as the international exchange of students, student mobility, cooperative programs with the community, global awareness, and community involvement (Delgado-Márquez, Hurtado-Torres, & Bondar, 2011; Knight, 2007, 1994; Radin, 2009; Tham & Kam, 2008). In 2011, Ministry of Malaysia Higher Education (MoHE) has developed the Internationalization Policy for Higher Education. The policy comprises six critical elements of internationalization, including student mobility, staff mobility, academic programs, research and development, governance and autonomy, social integration, and community engagement. However, the international student mobility is a crucial element of internationalization of higher education due to the growing numbers of global student mobility (Bhandari & Blumenthal, 2009; Clark & Sedgwick, 2005;

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Darvasula, Lysonski, & Madhavi, 2011; MOHE, 2011; Shekarchizadeh, Rasli, & Hon-Tat, 2011).

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The international student is defined as an individual who leaves his/her country of origin and travels to another country to study (UNESCO, 2006). The international student mobility has been a rapidly growing phenomenon, with over 3.3 million students seeking education in the global market (MoHE, 2011). In the previous years, host countries, such as US, UK, and Australia have experienced a decline in international students' enrolments. Instead, the new players in Asian countries, including China, Singapore, and Malaysia have experienced a growing population of international students (Verbik & Lasanowski, 2007). The change in mobility patterns provides a great opportunity for Asian countries, especially Malaysia, to prosper in international education market.

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The data derived from 2010 Malaysia Higher Education Statistics indicated that more than 80,000 international students are pursuing their education in Malaysia (MoHE, 2011). As illustrated in Table 1.1, the Ministry of Higher education had projected continuous increase in the international students' enrolment from 2009 to 2012. The Ministry of Higher Education also aims to accelerate the inflow of international students to 150,000 by 2015 and 200,000 by 2020, which would generate MYR 600 billion (MoHE, 2011). To date, Malaysia has 20 public-funded universities, 37 private universities and university colleges, and 460 private colleges. As a result, fierce competition between public and private universities for international students is increasing rapidly. In addition, the reduction of government funds is insufficient to cover increasing operational costs, forcing higher education institutions to seek other

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sources of financing, particularly through the recruitment of international students (Abdullah, 2006; Jain, Sinha, & Sahney, 2011; Munteanu *et al.*, 2010).

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Table 1.1: Projected number of International Students at Malaysian Higher Education Institutions (2009-2020)
(Source: http://www.mohe.gov.my/web_statistik/)

Year	2009		2010		2011		2012		2015	2020
	Public	Private	Public	Private	Public	Private	Public	Private		
Projections	19895	54474	22741	61589	25587	68704	28433	75819		
Total	74369		84330		94291		104252		150000	200000

In the face of global competition for international students, higher education institutions have developed and implemented active strategic initiatives to recruit the international students (MoHE, 2011). However, various service tools and strategies developed still unable to capture the process and interactive nature of service system from the perspectives of the customers (Edvardsson, Gustafsson, & Roos, 2005). Recently, the concept of customer experience has become increasingly important as a generic strategic tool to attract and retain the customers with the company (Garg, Rahman, & Qureshi, 2014; Shaw, Dibeehi, & Walden, 2010). The scholars affirm that customer experience is a next competitive battleground and offers a much greater depth compared to the previous concept of customer-focused, such as service quality and satisfaction (Helkkula, 2011; Shaw & Iven, 2005; Thompson, 2006). Berry, Carbone and Haeckal (2002) stated that 'offering products or services alone is not sufficient. Organizations must provide their customers with satisfactory experience'. However, the conceptualization of customer experience is ambiguous and elusive to be captured (Klaus *et al.*, 2013). The literature still lacks of integrative, profound, and structured knowledge on this topic. Therefore, further investigation to explain a more systematic view of customer experience is urgently needed.

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1.2 Statement of the Problem

Service in higher education requires students' participation. Students have been considered as the primary customers because they utilize the service directly (Abili *et al.*, 2011). Malaysia has been recognized as an international students' higher education destination (MoHE, 2011). Accordingly, the Ministry of Higher Education aims to attract 200,000 international students to study in Malaysia by 2020 (MoHE, 2011). Nevertheless, dealing with the international students adds additional responsibilities and expectations to the universities. The international students may experience different educational services in the host country compared to their home country (Lim, Yap, & Tee, 2011; Richards & Abdul Aziz, 2011; Yee, Hazrin, & Mokhtar, 2013).

In 2014, Times Higher Education (THE) Worlds Reputation Rankings reported that Malaysian public universities failed to appear in top 100 lists. The report also stated that low international students' enrolment contributes to this situation (http://www.timeshighereducation.co.uk/). The question is "what could be a reason for low international students' enrolment?" The Reviews of the empirical research have addressed the issue of the international students' experience in Malaysian higher education. The existing research has reported that the perceptions of international students towards services at Malaysian public universities are only at moderate level (Jalali, Islam, & Ku Ariffin, 2011; Rajab, Abdul Rahman, & Shaari, 2011; Rasli, Shekarchizadeh, & Iqbal, 2012; Shekarchizadeh, Rasli, & Hon-Tat, 2011; Siang, 2012). This means that some areas in service delivery still do not fully satisfy international students. The research has suggested that universities must deliver the service at a suitable standard and meet the international students'

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demands. In addition, the researchers have also suggested that the service rendered should embrace the ability to instill the students' values, attitudes and personalities. Concurrently, Verbik and Lasanowski (2007) reported that Malaysian universities still have to substantially improve the service delivery experience among international students if they want to become the world's leading destination for international education. Therefore, understanding the concept of customer experience in higher education should become a crucial agenda for the researchers and practitioners.

The concept of customer experience is still vague and elusive (Klaus *et al.*, 2013). The researchers affirm that the customer experience implies three phases of individual interactions, namely cognitive, affective and behavioral (Edvardsson, Enquist, & Johnston, 2005; Johnston & Clark, 2001; LaSalle & Britton, 2003; Ng & Forbes, 2009; Schmitt, 1999; Verhoef *et al.*, 2009; Walter, Edvardsson, & Öström, 2010). In service context, the cognitive-affective-behavioral model is often used to explain the causal order of customer experience phases (Bagozzi, 1992; Oliver, 1997). However, this model still lacks theoretical foundation to specify the relevant variables to represent each phase of customer experience as well as their interrelationships (Drotskiie, 2009; Gentile, Spiller, & Noci, 2007; Johnston & Kong, 2011; Palmer, 2010; Verhoef *et al.*, 2009). Therefore, the limitation of this model has motivated this research to further explore the theoretical perspectives and knowledge across multiple research areas in order to explain a more systematic view of customer experience phenomenon.

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Drawing on theoretical perspectives, the cognitive phase is represented by three customers' cognitive levels, namely Service Personal Values (SPV), Service Value (SV), and Service Quality (Lages & Fernades, 2005; Zeithaml, 1988). SPV is the highest level while SQ is the lowest level of customers' cognitive structure. Each level of customers' cognitive structure evaluates different types of service information. The higher the customer cognitive level is, the more subjective their evaluation on service delivery. Emotional Satisfaction (E-SAC) represents the affective phase, specifically, the pleasurable emotional responses that result from customer evaluation process (Westbrook & Reilly, 1983). The behavioral phase is represented by Favorable Behavioral Intentions (FBI) (Bodet, 2008; Flint, Blocker, & Boutin, 2011; Sweeney, Soutar, & Mazzarol, 2012). The researcher asserts that FBI is the most accurate variable to predict the customers' actual behavior. In previous research, SQ and customer satisfaction have been used as two indicators measuring the customer experience in the service context, including higher education (Klaus *et al.*, 2013; Palmer, 2010; Rajab, Abdul Rahman, & Shaari, 2011; Rasli, Shekarchizadeh, & Iqbal, 2012). However, the concept of customer experience offers a much greater depth compared to both concepts, SQ and customer satisfaction (Drotskiie, 2009; Shaw & Iven, 2005). The review of the related literature revealed several critical research gaps. The following describes the identified research gaps.

- Although the lower levels of customers' cognitive structure have been extensively investigated, particularly using 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). The limitation of investigating the highest level is probably its

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individuality and complexity in comparison to other levels (Lages & Fernandes, 2005).

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- Most research has defined the customer satisfaction as a cognitive construct, neglecting the crucial role of emotional construct (Ladhari, 2009; Stauss & Neuhaus, 2001; Wong, 2004; Yu & Dean, 2001). The Expectancy-Disconfirmation Paradigm (EDP) is a well-known paradigm to conceptualize and operationalize the customer satisfaction as a cognitive construct (Oliver, 1980). However, the conceptualization of satisfaction based on EDP has been criticized due to its conceptual standpoints, which overlap with SQ, and the validity of the measurement (Cronin & Taylor, 1992; Halstead, Hartman, & Schmidt, 1994; McGill & Lacobucci, 1992; Woodruff *et al.*, 1991; Yuksel & Yuksel, 2001). Therefore, the customer satisfaction should be further conceptualization in terms of its unique nature construct.
- The literature claims that the relationships among customer experience variables are causal as suggested by cognitive-affective-behavioral model (Brady & Robertson, 2001; Choi *et al.*, 2004; Cronin, Brady, & Hult, 2000). However, the direct relationships between the customers' cognitive variables (SPV, SV, and SQ) and E-SAC have rarely examined in service literature. Besides, the role of E-SAC as a mediating variable that would enrich the relationships between customers' cognitive levels and FBI has also rarely been investigated.

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To sum up, the aforementioned research gaps have generated a new call for this research to deepen the understanding of customer experience in higher education context.

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1.3 Research Objectives

The general objective of this research was to develop an integrative model of postgraduate international students' experience with service delivery at Malaysian research universities. The model was developed by integrating the theories and knowledge across multiple research areas, including management, consumer behavior, marketing, and higher education. The model includes relevant variables that representing each phase of customer experience. The variables include SPV, SV and SQ (cognitive phase); E-SAC (affective phase); and FBI (behavioral phase).

This research aimed to determine the direct relationship between the customer experience variables, as suggested by cognitive-affective-behavioral model. In addition to the direct relationships, this research determined the indirect relationships between the customer experience variables. Additionally, this research also focused on the role of SPV and E-SAC that are rarely explored in service context, including higher education. In this research, E-SAC played a role as a mediating variable that could further explain the relationship between customers' cognitive levels and FBI. Interestingly, in this research the relationships among the customer experience were tested simultaneously in one model using the Structural Equation Modeling (SEM) procedure. Thus, this delineated the specific research objectives as follows:

i. to identify the role of SPV and E-SAC in higher education service delivery,
ii. to determine the direct relationship between the customers' cognitive levels (SPV, SV and SQ) and E-SAC,
iii. to determine the direct relationship between E-SAC and FBI,

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iv. to determine the direct relationship between the customers' cognitive levels (SPV, SV and SQ) and FBI, and

v. to determine the indirect relationships between the customers' cognitive levels (SPV, SV and SQ) and FBI through E-SAC.

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1.4 Research Questions

In this research, several questions were used to guide the investigation as follows:

i. What are the relevant variables that represent each phase of customer experience in higher education service delivery?

ii. Do SPV and E-SAC play the crucial role in predicting customer experience in higher education service delivery?

iii. What is the relationship between the customers' cognitive levels (SPV, SV and SQ) and E-SAC?

iv. What is the relationship between E-SAC and FBI?

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v. What is the relationship between the customers' cognitive levels (SPV, SV and SQ) and FBI?

vi. What is the relationship between the customers' cognitive levels (SPV, SV and SQ) and FBI through E-SAC?

vii. Is an integrative model able to explain the relationships among the variables of customer experience based upon the cognitive-affective-behavioral causal model?

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1.5 Delimitation

This research has identified the variables that represent each phase of customer experience. The variables include SPV, SV and SQ (cognitive phase); E-SAC (affective phase); and FBI (behavioral phase). Moreover, this research has examined the direct and indirect relationships among customer experience variables. However, this research did not investigate the linkage among the customers' cognitive levels. The previous research has claimed that Means-End Chain (MEC) model has been widely used to explore the customers' cognitive structure. The qualitative laddering interview is a popular method of MEC analysis. However, laddering technique has been criticized because it is overly concerned with hierarchical procedure of the generated data (Botschen *et al.*, 1999; Gengler & Reynolds, 1995; Grunert & Grunert, 1995; Lin, 2002; ter Hofstede *et al.*, 1998; Veludo-de-Oliveira, Ikeda, & Campomar, 2006). The laddering technique links the customers' lowest cognitive levels with the highest cognitive levels (attributes-values route).

Parry (2001) has postulated that from the perspective of customers, the MEC could be interpreted in the opposite direction (top-down route). The meaning in this chain is based on personal values. Hence, the strict nature of bottom-up route of MEC might not necessarily be accepted. The top-down route implies downward causal relationships amongst nodes, which contradicts the classic MEC theory (Gutman, 1991). This is in line with Philips and Reynolds (2009) who revealed that top-down route, which describes the customers' evaluation of services, stems from personal values giving meaning and importance to the lower-level attributes. The values at a higher level of abstraction embody a critical element of customer motivation. Furthermore, Pieters, Baumgartner, and Allen (1995) affirmed that the ultimate aim

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of life is the realization of the values that the customer founds important. Yet, the researchers have not investigated intensely such semantic network of the customers' cognitive structure or associative patterns (top-down route) (van Rekom & Wierenga, 2007). The change in methodology perspective opens up new opportunities for future research.

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1.6 Scope of the Research

This research was conducted at Malaysian public universities with Research University (RU) status. The research universities include Universiti Malaya (UM), Universiti Sains Malaysia (USM), Universiti Kebangsaan Malaysia (UKM), Universiti Putra Malaysia (UPM) and Universiti Teknologi Malaysia (UTM). These universities were selected due to the large number of international students' enrolment in these universities. The statistics released by the Ministry of Higher Education in 2013 showed that 73% of international students' enrolment at a postgraduate level is at Research Universities. Besides intensifying the activities of research, the objective of RU is to increase the quality and quantity of the international students in Malaysian public universities (Maah & Muhamad, 2009).

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In this research, the postgraduate international students (PIS) at Malaysian research universities were selected as sample. This research included PIS for several reasons. First, the data released by MoHE (2013) showed that there is a decline in PIS' enrolment at Malaysian public universities. For example, the enrolment of students from China decreased by 9% from 2009 to 2012. Second, 95% of international students who pursue their study in Malaysian public universities are postgraduates. Third, the PIS are treated as 'small ambassadors' to their country, and they are able

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to generate the profitable income for the particular university (Rajab, Abdul Rahman, & Shaari, 2011). Finally, research on the specific service needs of international students is limited (Movondo, Tsarenko, & Gabbott, 2008; Shekarchizadeh, Rasli, & Hon-Tat, 2011).

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1.7 Significance of the Research

This research contributes to theoretical and practical perspectives particularly in service management domain. Concerning theoretical perspectives, this research can enlarge the body of knowledge by developing an integrative model of customer experience in higher education service delivery. The model developed will be able to comprehensively specify the variables of customer experience, which involves three phases of customers' interactions, namely SPV, SV and SQ (cognitive phase); E-SAC (affective phase); and FBI (behavioral phase). Moreover, the model will be able to introduce the concept of SPV and E-SAC as the crucial constructs for measuring customer experience. In previous research, the link between SQ and customer satisfaction has been widely examined to measure students' experience in higher education. However, the concept of customer experience offers a much greater depth compared to the other two concepts, namely SQ and customer satisfaction. This research examines simultaneously the direct relationships among customer experience variables as well as the indirect relationships between customers' cognitive levels and FBI through E-SAC.

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Recently, there has been a tremendous competition among universities to attract international students. Consequently, the universities have developed and implemented active strategies and initiatives to attract international students. However, the strategies do not fully capture the process and interactive nature of service system from the customer' perspective. This research will provide the managers in higher education with an integrative model to evaluate the international students' experience. The straightforward and informative model is needed to provide guidelines for the managers on the management of the variables in the higher education service delivery, including SPV, SV, SQ, E-SAC and FBI to ensure the positive experience among international students. Thus, this research is time-based to assists the practitioners with the development of a specific strategic differentiator to manage the service delivery in higher education from the international students' perspectives.

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1.8 Definition of Terms and Concepts

The following terms are defined to provide clarify the key aspects and variables in this research. The following described the definition of terms and concepts.

- *International students*. Individuals who leave their country of origin and travel to another country to study (UNESCO, 2006).
- *Service delivery*. The process involving the delivery of higher education service activities, including teaching, learning, research, administrative and other service activities (Eriksen, 1995; Tham & Kam, 2008).
- *Customer experience*. A process that implies customer involvement at three different phases of individual interactions, namely cognitive, affective and behavioral (Edvardsson, Enquist, & Johnston, 2005; Johnston & Clark, 2001;

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LaSalle & Britton, 2003; Ng & Forbes, 2009; Schmitt, 1999; Verhoef *et al.*, 2009; Walter, Edvardsson, & Öström, 2010). Each phase of customer experience is represented by relevant variables. The cognitive phase is represented by three variables, namely Service Personal Values (SPV), Service Value (SV), and Service Quality (Lages & Fernades, 2005; Zeithaml, 1988). The affective phase is represented by Emotional Satisfaction (E-SAC) (Westbrook & Reilly, 1983). The behavioral phase is presented by Favorable Behavioral Intentions (FBI) (Bodet, 2008; Flint, Blocker, & Boutin, 2011; Sweeney, Soutar, & Mazzarol, 2012).

- *Service Personal Values (SPV)*. The customers' cognitive evaluation of the use of service based on the ultimate goals they wish to achieve in their lives (Durvasula, Lysonski, & Madhavi, 2011; Lages & Fernandes 2005). SPV is measured by three groups of individual values, including personal values to peaceful life (SVPL), personal values to social recognition (SVSR), and personal values to social integration (SVSI) (Lages & Fernandes, 2005).
- *Service Value (SV)*. SV reflects customers' cognitive trade-off between benefits and sacrifices resulting from the use of service. The benefits from service refer to the quality while the sacrifices refer to the monetary and non-monetary indicators (Cronin *et al.*, 1997; Zeithaml, 1988).
- *Service Quality (SQ)*. SQ reflects the customers' cognitive evaluation of the attributes of the higher education service delivery (Abdullah, 2006; Brochado, 2009). SQ is operationalized using five service dimensions, namely non-academic aspects, academic aspects, reputation, program issue, and access (Abdullah, 2006).

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- *Emotional Satisfaction (E-SAC).* E-SAC represents the customers' evaluative responses of pleasurable emotional state that results from the customers' cognitive evaluation (Liljander & Strandvik, 1997; Yu & Dean, 2001). E-SAC is measured by customers' positive emotions, including happy, hopeful, positive surprised, pleasant, contented, and enjoyable (Liljander & Strandvik, 1997; Reynolds & Beatty, 1999; Westbrook & Oliver, 1991).
- *Favorable Behavioral Intentions (FBI).* FBI reflects the customer's willingness to engage in favorable behavior based on the service experience, such as saying positive things about service rendered, recommending the service to others, and remaining loyalty (Zeithaml, Berry, & Parasuraman, 1996).

1.9 Organization of the Thesis

This thesis comprises five chapters. Chapter 1 is research introduction, which covers several topics, including the background of the research, statement of the problem, research objectives, research questions, delimitations, scope of the research, significance of the research, and the definitions of terms and concepts. Chapter 2 provides the review of the relevant literature regarding the topic of customer experience in higher education and the underpinning theories. At the end of this chapter, the conceptual research framework was developed by integrating the theories and knowledge derived in the literature. Chapter 3 discusses the methodological procedures employed to test causal relationships among the variables of customer experience. This chapter also discusses the aspects of research methodology, including a research setting, sampling technique and procedures, development of a research instrument, data collection procedures, and data analysis

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techniques. Chapter 4 describes the findings of the data analysis. The gathered data were analyzed using AMOS 18.0. This research involved two major data analysis, namely the measurement model and the structural model. The hypotheses were tested using the structural model. Finally, Chapter 5 discusses the research findings, and suggests directions for future research.

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CHAPTER 2

LITERATURE REVIEW

This chapter provides the review of the relevant literature on the topic of customer experience in higher education context. This chapter comprises the following sub-topics: i) an overview of higher education as a service industry and the nature of service system in higher education; ii) the concept of customer experience in service context; iii) theoretical perspectives explaining a systematic view of customer experience phenomenon by specifying the related variables and their interrelationships; iv) the conceptualization and operationalization of the customer experience variables; v) the relationship among variables of customer experience; vi) the research on the customer experience in higher education; and vi) the research framework and hypotheses development.

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2.1 An Overview of the Higher Education Service Industry

The word 'service' has a rich and diverse meaning. In general, service is a behavioral rather than physical entity. Zeithaml and Bitner (2004) provided the most widely accepted definition of service consisting of a series of deeds, processes and performances. Services involve a large range of industries, such as telecommunication, hotels, transportations, and finance. Higher education has been recognized as a service industry because it shares the common features of service. The General Agreement on Trade in Services (GATS) under the World Trade Organization (WTO) has classified higher education as a service sector (Knight, 2002). GATS views the trade in higher education services as a profitable and competitive, particularly because of internationalization. Malaysia at a national level has identified education as one of crucial service sectors, which accelerates Malaysia's growth towards achieving a high-income developed nation status by 2020 (National Economic Advisory Council (NEAC), 2009).

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The service literature has categorized higher education service according to four unique characteristics (Franklin & Shemwell, 1995; Idrus, 2011; Ng & Forbes, 2008). The service characteristics are intangible (services are activities and not physical objects), inseparable (simultaneity of production and consumption), heterogeneous (non-standardization), and perishable (exclusion from the inventory). However, the conventional service characteristics have been criticized because they concentrated only on how to manage the service delivery from the provider's perspective (Lovelock & Gummesson, 2004). The service characteristics do not portray the essence of service from the customer's perspective. Edvardsson, Gustafsson and Roos (2005) conducted a critical review of 57 articles in service

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research to analyze how the service characteristics, including intangible, inseparable, heterogeneous, and perishable express the service concept. The authors concluded that the conventional service characteristics do not capture the process and interactive nature of service system through the lens of a customer. As a result, a new way of portraying service is needed based on the values of the customers.

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2.1.1 The Nature of Service System in Higher Education

Service delivery system (SDS) can be defined as an open social system, which possesses a definable structure and functions in a particular manner (Maher, 1979). SDS structure interacts with external environment and its function can be categorized into five components, namely input, process (throughput), output, feedback, and outcome. The higher education system is viewed as a transformation system, which converts inputs into outputs through the service delivery or operation processes (Sahney, Banwet, & Karunes, 2004(a)).

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The concept of SDS in higher education was derived from Total Quality Management (TQM) philosophy, which adopts the 'Input-Process-Output' (IPO) framework (Chua, 2004; Gupta, 1993; Idrus, 2011; Jain, Sinha, & Sahney, 2011; Sahney, Banwet, & Karunes, 2004(a), 2004(b)). Figure 2.1 illustrates the IPO framework. In higher education context, inputs are the resources in the form of human and physical facilities. The process refers to service delivery activities, including teaching, learning, research, administrative and knowledge transformation while outputs refer to service produced or delivered, such as tangibles outcomes, additional value and intangible outcomes.

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Figure 2.1: The 'Input-Process-Output' (IPO) Framework
(*Source: Idrus, 2011, p. 109*)

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Higher education is a unique service constituting a range of inputs, such as human, financial, and physical (Roth & Menor, 2003). In total, these various inputs generate unparalleled demands in educational delivery activities (Eriksen, 1995; Tham & Kam, 2008). Service in higher education involves specifically customer contact or customer participation. According to Fitzsimmons and Fitzsimmons (2008), customers who participate in the service delivery provide crucial inputs and contribute to the quality of satisfaction with and value of the delivery. A customer is anyone to whom a product or service is provided (West-Burnham, 1992). 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 the primary customers who experience the educational services (Lewis & Smith, 1994; Pariseau & McDaniel, 1997; Wiklund & Wiklund, 1999; Yeo, 2009). The role of student as the main customer has shifted the power in making decision from service provider to students (Abili *et al.*, 2011; Eriksen, 1995; Spanbauer, 1995).

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2.1.2 The Challenges and Issues in Higher Education

Nowadays, higher education sector faces the rapid development of international education market because of global economy changes (Abdullah, 2006; Munteanu *et al.*, 2010). 'Internationalization' and 'globalization' are two crucial concepts used to describe the international elements in higher education. Internationalization reflects the process of integrating international and intercultural elements into teaching, research and other service delivery activities in higher education (Knight, 2007). On

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the other hand, globalization affects internationalization due to its competitive nature, particularly regarding the economic sector (Arokiasamy, 2011). Internationalization has brought higher education into a new stage that views educational system in term of its complexity, interconnectedness and diversity (Sidhu & Singh, 2009). According to Altbach and Knight (2007), internationalization of higher education can be categorized into four modes:

- *Cross-border supply.* This mode may include distance education (e-learning) and franchising courses or degrees (which does not necessarily require the physical movement of the consumer or provider).
- *Consumption abroad.* The consumer moves to the country of the provider.
- *Commercial presence*. The service provider establishes facilities in another country, including branch campuses and joint ventures with local institutions.
- *Presence of natural persons*. This mode includes persons, like professors and researchers, who temporarily travel to other country to provide educational services.

In the past literature, international students' mobility has always been considered as a key mode of internationalization of higher education due to the growing numbers of student mobility worldwide (Bhandari & Blumenthal, 2009; Clark & Sedgwick, 2005; Durvasula, Lysonski, & Madhavi, 2011; Shekarchizadeh, Rasli, & Hon-Tat, 2011).

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Generally, international students are defined as individuals seeking an education outside of their home country (Bhandari & Blumenthal, 2009). In 2006, UNESCO has introduced the concept of 'internationally mobile students' to refer to individuals who leave their country of origin and travel to another country to study. This 'consumption abroad' mode still predominates the international higher education market, even though there are new types of education programs, such as virtual modes, to deliver education service to students in their home countries through twinning and franchising (Teichler, 2004). MoHE (2011) provided several reasons for which, students go abroad to study, such as insufficient local capacity to meet the demands in obtaining higher education, higher household levels of wealth and rising GDP per capita, especially from growing economy countries, and the incentives offered by the hosting countries to international students. Most countries now understand that global student mobility is a critical component of sharing knowledge and culture, building intellectual capital, and remaining competitive in a globalizing world. As Altbach and Knight (2007), stated in the 21st century, higher education is heavily moving toward greater international involvement, which reflects the emergence of the knowledge society.

The international student mobility is a rapidly growing phenomenon, with over 3.3 million students seeking education in global market in 2010 (MoHE, 2011). However, in previous years, some host countries such as the US, UK, and Australia have experienced a decline in the international students' enrolments. Concurrently, the new players in Asian countries, including China, Singapore and Malaysia, have also been recognized as the "Emerging Contenders" that have entered the market with the growing population of overseas students (Verbik & Lasanowski, 2007).

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Durvasula, Lysonski and Madhavi (2011) reported that the number of students pursuing higher education worldwide would increase at an annual rate of 6.2 percent, reaching 5.8 million by 2020, with most of that growth occurring in Asia.

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The massive increase in international students' enrolment in Asia countries is also due to the massification and democratization of higher education (Kaur & Abdul Manan, 2012). The significant reasons for these changes in mobility patterns of international student market include the use of English as the main language of instruction; considerably lower tuition fees and living costs compared to those in the US, the UK and Australia; and cultural similarities (Shin & Harman, 2009). Drawing upon the statistical data sources, such as *Open Doors, Project Atlas, UNESCO* and *OECD,* Bhandari and Blumenthal (2009) summarized the recent trends of international student mobility worldwide as follows;

> *Eight countries (US, UK, Germany, France, Australia, China, Canada and Japan) host 72 per cent of the world's tertiary-level mobile students. The US continues to host the largest number and proportion of international students pursuing a higher education outside of their home. However, several countries in Asia Pacific Region including Malaysia have stepped up their efforts to internationalize including developing strategies to attract students and to export educational programs and institutions, although, this has resulted in a somewhat smaller market share compare to US (p. 4).*

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As a result, the countries and higher education institutions are facing enormous 'global competition' for international students. Moreover, the reduction in governmental funds which are insufficient to cover increasing operational costs, have forced public tertiary institutions in many Asian countries to seek other sources of financing, particularly through the recruitment of international students (Abdullah, 2006; Jain, Sinha, & Sahney, 2011; Munteanu *et al.*, 2010). The international students are the largest source of funds for international education. For instance, many countries, such as Australia and UK, recruit international students to earn profits by charging high tuition-fees (Davis & O'Sullivan, 2003).

In the face of global competition for the international students, Malaysia has taken active measures to develop policies and strategic initiatives to recruit international students. For instance, Malaysia has developed the International Policy for Higher Education at national level and formed several strategies to recruit international students, including allocating substantial financial resources, improving the immigration procedures, and enhancing the post-graduate market (MoHE, 2011). Despite developing the active recruitment strategies, Malaysia is still facing the issue of ensuring a positive experience with higher education service delivery for international students. As reported by Verbik and Lasanowski (2007) in The Observatory on Borderless Higher Education:

> '*Should Malaysia realistically want to challenge the world's leading destinations for foreign students, it will have to substantially improve the delivery systems of its institutions, especially the publicly-administered ones, to better accommodate*

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prospective overseas students and provide them with promised services' (p. 20).

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2.2 Customer Experience in Service Context

The concept of customer experience becomes important predominantly in service research, and it has gained enormous attention among researchers and practitioners (Gentile, Spiller, & Noci, 2007; Helkkula, 2011; Meyer & Schwager, 2007; Thompson, 2006). As stated by Berry, Carbone and Haeckel (2002), *'Offering products or services alone isn't enough these days: Organizations must provide their customers with satisfactory experience' (p. 1).*

A growing numbers of organizations have implemented the principles of customer experience as a strategic tool to generate customer loyalty (Mascarenhas, Kesavan, & Bernacchi, 2006; Shaw, Dibeehi, & Walden, 2010). Figure 2.2 illustrates an evolution of customer experience in the service context. In 1980, service quality was a well-known concept applied mostly in academic research and practices. However, during 1990s, the concept of service quality shifted to customer service and recently to customer experience focus. It is important to note that customer experience involves the concept of customer service and service quality. This argument is in line with Shaw and Ivens (2005) who affirmed that the customer experience offers a much greater depth compared to previous service concepts such as service quality and customer satisfaction.

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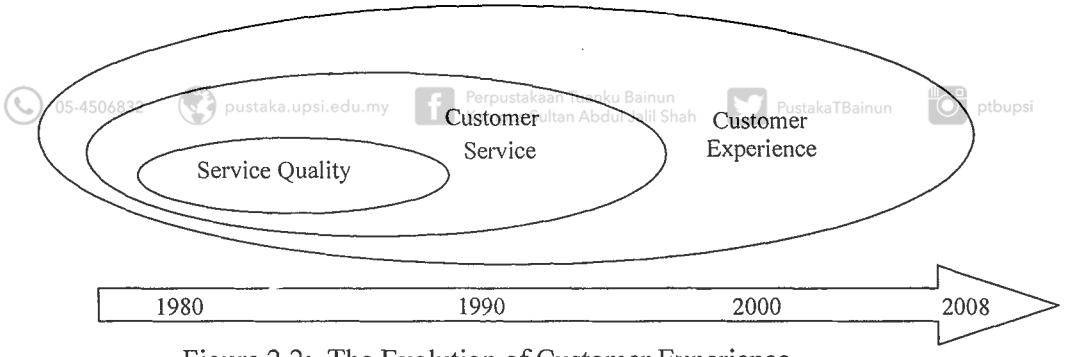


Figure 2.2: The Evolution of Customer Experience
(Source: Drotskiie, 2009, p. 363)

Gentile, Spiller and Noci (2007) and Thompson (2006) viewed customer experience as an evolution of Customer Relationship Management (CRM) that explains interaction between customer and organization from the customer's perspective. This interaction is also called a 'moment of truth'. According to Shaw (2007), 'a customer experience is an interaction between an organization and a customer. It is a blend of an organization's physical performance, the senses stimulated and emotions evoked, each intuitively measured against customer expectations across all moments of contact' (p. 8).

Despite the growing attention towards customer experience, its definition is still ambiguous (Klaus *et al.,* 2013). The concept of customer experience in service context is unique and elusive to be captured. The following definitions conceptualize customer experience within service context.

- 'A customer experience is defined as the customer's direct and indirect experience of the service process, organization and facilities, and how the customer's interaction with the service firm's representatives and other customers. These in turn create the customer's cognitive, emotional and

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behavioral responses and leave the customer with memories about the experience' (Walter, Edvardsson, & Öström, 2010, p. 238).

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- Experience with university services involves students' cognitive, affective and hedonic, and even difficult to identify (Ng & Forbes, 2009).
- Customer experience is 'holistic in nature and involves the customer's cognitive, affective, emotional, social and physical responses to the retailer' (Verhoef *et al.*, 2009, p. 33).
- 'Customer experience is the internal and subjective response of customers to any direct or indirect contact with a company. Direct contact generally occurs in the course of purchase, use, and service, and it is usually initiated by the customer. Indirect contact most often involves unplanned encounters with representations of a company's products, services, or brands and it takes the form of word-of-mouth recommendations or criticisms, advertising, news reports' (Meyer & Schwager, 2007, p. 118).

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- 'Customer experience is a tripartite process that involves customer's cognitive, emotional and behavioral' (Edvardsson, Enquist, & Johnston, 2005, p. 3).
- Customer experience is not involved solely in the quality of cognition assessment and a value of money, but also in the emotional and reactions (Johnston & Clark, 2001).
- Customer experience implies customer response, rational, emotional and sensorial physical at different phases of human interactions (LaSalle & Britton, 2003).
- 'In sum, experiences provide sensory, emotional, cognitive, behavioral, and relational values that replace functional values' (Schmitt, 1999, p. 26).

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- During a service encounter, experience can be defined as 'the subjective mental state felt by participants' (Otto & Ritchie, 1996, p. 166).

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Reviews of the related literature indicate that the conceptualization of customer experience involves three different phases of interaction, namely cognitive, affective and behavioral. However, little attempt has been made to understand customers' experience from the aspects of cognitive, affective and behavioral (Palmer, 2010).

2.2.1 Cognitive-Affective-Behavioral Model

The need to understand customer experience leads this literature search to the cognitive-affective-behavioral model. The concept of attitude contributes significantly to explaining the consumer behavior in the service context (Grace & O'Cass, 2004; Han & Kim, 2010; Kwun, 2011; Ki & Hon, 2012). Attitudes are defined as *'learned predisposition to behave in a consistently favorable or unfavorable way with respect to a given object'* (Wilkie, 1994, p. 281). The attitude model views human behavior through three components, namely cognitive, affective and conative. Figure 2.3 illustrates the interconnection among three components of attitudes. The cognitive component refers to knowledge or beliefs about an attitude object. Affect is a technical term for positive or negative feelings. Affective component reflects feelings regarding the attitude object. The conative component reflects the behavioral tendencies towards the attitude object.

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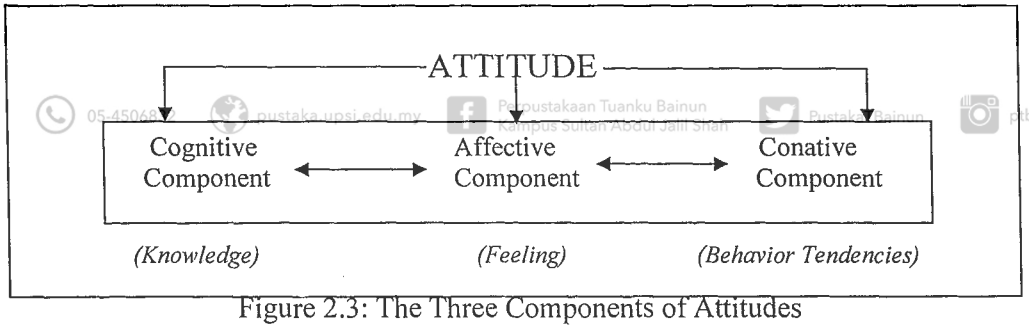


Figure 2.3: The Three Components of Attitudes
(Wilkie, 1994, p. 282)

Since the introduction of the attitude model, several models have been proposed to explain the causal sequence of attitude components. Bagozzi (1992) offered empirical evidence that supports the causal sequence of cognitive, affective and behavioral through evaluative-response-coping framework. When applied to service context, the framework indicates that an initial service evaluation (service quality) leads to a primary emotive satisfaction assessment, which, in turn leads to behavioral intentions (Brady & Robertson, 2001; Cronin, Brady, & Hult, 2000). This is consistent with Oliver's (1997) findings that supported a causal sequence among attitudinal constructs through cognitive-affective-conation model. According to Oliver, the consonant cognitions produce pleasant feelings and then motivate individuals to engage in favorable behavioral. Choi *et al.* (2004) applied the cognitive-affective-conation model to evaluate service experiences. The results of this research provided the evidence of causal sequence, which suggested that cognitive (service quality and value)-affective (satisfaction)-conation (behavior intentions) model is robust across boundaries.

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2.3 Theories Underpinning the Customer Experience Phenomenon

The cognitive-emotional-behavioral model has been researched in service context to predict the customer behavior. However, this model still lacks the theoretical perspective to explain the underlying variables that measure each phase of customer experience as well as their interrelationships. The researchers agree that the concept of customer experience is still far from its maturity and lacks theoretical foundation that support practices (Drotskiie, 2009; Gentile, Spiller, & Noci, 2007; Johnston & Kong, 2011; Palmer, 2010; Verhoef *et al.*, 2009). Therefore, the theoretical perspective is required to explain a more systematic view of customer experience phenomenon. According to Kerlinger and Lee (2000), 'a theory is a set of interrelated constructs, definitions, propositions that present a systematic view of phenomena by specifying the relations among variables, with the purpose of explaining and predicting the phenomena' (p.11).

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2.3.1 The Means-End Chains (MEC) Theory

Customer experience occurs when the customers receive any useful information about product or services. The information is then retained in customers' memory at various levels of abstraction (Shaw, 2007). According to means-end chain (MEC) theory, customers' cognitive structures are represented by three hierarchical levels of abstraction, namely i) attributes (means), ii) consequences, and iii) values (ends) or attributes(A)-consequences(C)-values(V) (ACV) (Gutman, 1982). In 1988, Zeithaml re-conceptualized each level of means-end chain. The evidences were derived from exploratory study involving a focus group, an in-depth interview of three distinct product lines of beverages and a review of the related literature. Zeithaml postulated that customers organize information at various levels of abstraction, including

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attribute level, quality level, value level, and to complex personal values (Zeithaml, 1988). The customers use different types of information at different levels of abstraction in the decision-making process.

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The bulk of previous research has applied the MEC theory to consider the customer decision-making in purchasing the product or goods. However, the shift towards a service-based economy has been evolving since 1970s (Lages & Fernandes, 2005). Nowadays, services are a global business, and more firms than ever are selling services (Szymanski, 2001). Rendering service to customers is more risky than selling customers products accordingly, customers are more cautious when selecting the superior service (Rosen & Greenle, 2001).

Lages and Fernandes (2005) adapted the MEC model from Ziethaml (1988) to understand the customer's cognitive structure in service context. Figure 2.4 illustrates the mean end chain model in the service context. Service information is retained in the customer's memory at four levels of abstraction. At the lowest level, service attributes refer to functional benefits or service attributes (Olson & Reynolds, 1983; Young & Feigin, 1975). At the second level of abstraction is service quality. Service quality is defined as the discrepancy between customer's perceptions of services offered and their expectations about firms offering such services (Parasuraman *et al.,* 1988). The customer assesses the service quality by considering various attributes, intangible and tangible (Gutman, 1997). A significant contribution was already given to the marketing field via the development of SERVQUAL model (Parasuraman *et al.,* 1985, 1988, 1991). At the third level, service value is another construct that is found in service management and marketing literature. Service value

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is defined as a cognitive trade-off between perceptions of quality and sacrifice (Cronin *et al.*, 1997). Zeithaml (1988) stated that service value could be referred to as the customer's perception of service received (get) and given. Finally, at the fourth level, service personal values refer to the customers' beliefs or conceptions about end goals or desirability (Rokeach, 1973).

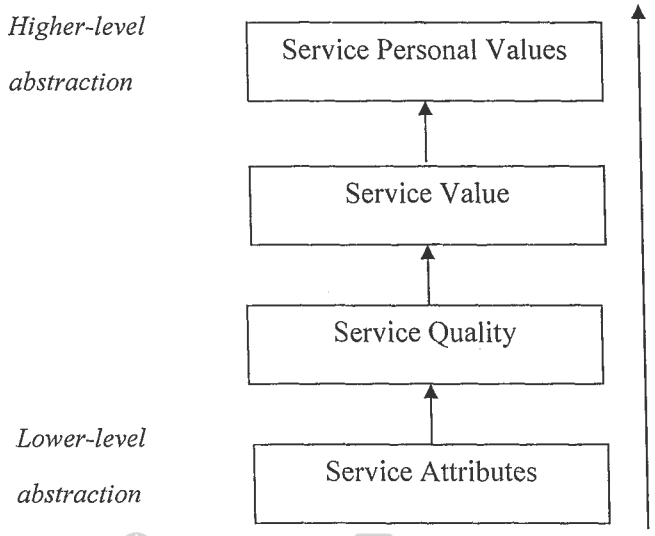


Figure 2.4: The Means-End Chain Model in Service Context
(Source: Lages & Fernandes, 2005, p. 1563)

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

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2.3.1.1 Methodological issue of MEC

MEC has been intensively analyzed in qualitative measurement methodology, particularly through laddering technique (Gengler & Reynolds, 1995; Veludo-de-Oliveira, Ikeda, & Campomar, 2006) or laddering interview technique (Reynolds & Gutman, 1988). The laddering technique is the main research method by which MEC is operationalized. The focal objective of laddering is to find the hierarchy levels of abstraction behind the product choice. Laddering is highly recommended in qualitative research, as it draws out the hierarchical constructs of personal values following means-end chain theory (Reynolds & Gutman, 1988). However, the laddering technique has been challenged due to the following limitations:

i) It is difficult to conduct content analysis due to time and cost of interviewing, coding, and computer-aided analyses (Botschen *et al.,* 1999, ter Hofstede *et al.,* 1998; Lin, 2002). Moreover, trained researchers need to guide respondents in understanding each level of abstractions (Gengler & Reynolds, 1995; Veludo-de-Oliveira, Ikeda, & Campomar, 2006).

ii) It is difficult to achieve the validity because the laddering technique prescribes individuals' behavior based on the recognition of their cognitive structure (Grunert & Grunert, 1995).

iii) In terms of the laddering data analysis and interpretation, the problems occur in the pre-definition of the cut-off level when constructing the Hierarchical Value Map (HVM) because no statistical criteria exist for that particular purpose (Lin, 2002).

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To sum up, the major limitation of laddering technique is difficulty in obtaining a large-scale of representative samples (ter Hofstede *et al.,* 1998). In reaction to these limitations, several attempts have been introduced to quantify MEC using quantitative techniques, such as conjoint analysis, structural equation modeling (Grunet, 1997), log linear model and association pattern technique (APT) (Gutman, 1982; ter Hofstede *et al.,* 1998). For instance, ter Hofstede *et al.* (1998) empirically proved that the content of customer knowledge between APT and laddering networks differ and provided evidence of the validity of APT.

Although means-end chain theory was developed based on hierarchical cognitive structure, MEC research focuses on the relations among different levels of abstraction and not on the hierarchy (Parry, 2001; Philips & Reynolds, 2009; Reynolds & Olson, 2001; van Rekom & Wierenga, 2007). The researchers, such as Cohen and Warlop (2001) and van Rekom and Wierenga (2007) emphasized the need to consider the question of whether MEC relations are hierarchical. The MEC links the levels of abstraction hierarchically and follows strict directional procedure, particularly through laddering technique. Bagozzi and Dholakia (1999) stated that laddering is too concerned with the hierarchical structure of the generated data. Consequently, it forces the respondents to form linear hierarchical structure and neglects the potential of cognitive connections. The empirical findings indicate that the MEC relations turn out to be symmetrical rather than asymmetrical, that is, if the respondents say A is a means to B, they are also likely to say B is a means to A. In some situations, MEC relations are not necessarily hierarchical. Hence, a network presentation is more accurate compared to hierarchical value map (HVM), as presented in the laddering technique.

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2.3.2 The Competing Theories of Customer Satisfaction

The concept of satisfaction has been consistently discussed in management and marketing areas. As a result, various theories have been developed to explain customer satisfaction, including Expectancy-Disconfirmation Paradigm (EDP), the Value-Percept Disparity Theory, the Comparison Level Theory, and the Importance-Performance Theory. Amongst these theories, two competing theories of customer satisfaction dominate the service research literature. The theories are the Expectancy-Disconfirmation Paradigm (EDP) (Anderson, 1973: Oliver, 1980; Olshavsky & Miller, 1972) and the Value-Percept Disparity Theory (Westbrook & Reilly, 1983).

EDP is the most widely applied theory to assess consumer satisfaction and dissatisfaction within the service context (Arambewela, Hall, & Zuhair, 2005; Archambault, 2008; Liao, Chen, & Yen, 2007; McKinney, Yoon, & Zahedi, 2002). This theory postulates that customers compare the actual product or service performance with their prior expectations. Four elements, including expectations, performance, disconfirmation, and satisfaction, form the basis of EDP (Churchill & Surprenant, 1982). The expectations assumed that the customers anticipate the performance of a service in the pre-purchase situation, whereas performance occurs in a post-purchase situation. The disconfirmation is a comparison process between pre-purchase expectations and post-purchase performance perceptions. This process may produce three outcomes. First, positive confirmation indicates that the service performs as expected, which leads to medium satisfaction. Second, negative disconfirmation implies that the service does not perform as expected, which leads to dissatisfaction. Third, positive disconfirmation indicates that the service performs better than expected, which leads to satisfaction. Within the EDP views, satisfaction

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is conceptualized as the outcome of the interaction among the formation of expectations, performance expectation and comparison both of them.

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Despite its dominance, the EDP has been criticized for its conceptual standpoint and validity of the measurement (Cronin & Taylor, 1994; Halstead, Hartman, & Schmidt, 1994; McGill & Lacobucci, 1992; Yuksel & Yuksel, 2001; Woodruff *et al.,* 1991). The customer satisfaction within EDP is judged in relation to a comparison standard between the expectations and performance. However, the use of expectations measurement in pre-purchase stage might be less relevant in experiential service (Yuksel & Yuksel, 2001). The service experience involves the attributes, such as taste and value, which can be assessed solely after a purchase or during consumption (Devlin & Dong, 1994; Zeithaml, 1988). Therefore, the customer satisfaction should be further conceptualized, particularly in terms of its unique nature construct. Westbrook and Reilly (1983) proposed the Value-Percept Disparity theory as opposed to EDP. The Value-Percept Disparity theory asserts that the customers evaluate the satisfaction and dissatisfaction after purchasing stage, which the expectations never existed.

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According to value-percept disparity theory, customer satisfaction is defined as the pleasurable emotional state resulting from the evaluation of service that satisfies the customers' values. This theory also claims the causal sequence of post-purchase cognitive-affective processes. A cognitive evaluative process in which the perceptions of services are compared to one's values triggers the emotional satisfaction. Although, the Value-Percept Disparity theory has not received much attention, its theoretical standpoint has guided the researchers to extend the

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understanding of the customers' behavior regarding two crucial concepts namely, emotional satisfaction and values (Chen, 2008; Gooding 1995; Taylor & Baker, 1994; Westbrook & Oliver, 1991).

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2.3.3 The Fishbein Model

The Fishbein model (Azjen & Fishbein, 1980) is a well-known model to understand and predict the customer behavior. The model postulates the *'behavior can be predicted from the intentions that correspond (in term of action, target, time and context) directly to that behavior'*. The researchers have pointed out that the behavioral intentions are the most accurate predictors of the actual customers' behavior towards the services (Baker & Crompton, 2000; Salazar, Cota, & Rita, 2010 Smith & Reynolds, 2009). The behavioral intentions are then conceptualized as the strength of one's willingness to try while performing certain behaviors (Azjen, 1991). In seminal research conducted by Zeithaml, Berry and Parasuraman (1996), behavioral intentions are viewed as the consequences of the customers' cognitive assessments, such as service quality. The authors hypothesized that a high service quality often leads to favorable behavioral intentions. In contrast, a low service quality tends to lead to unfavorable behavioral intentions. Several researches have asserted that behavioral intentions are the outcomes of the service evaluation, including the propensity to engage in word-of-mouth (WOM) and recommendation (Cronin, Brady, & Hult, 2000; Singh, 1990). In addition, the researchers have found a positive relationship between customer satisfaction and behavioral intentions (Anderson & Sullivan, 1993; Anderson, Fornell, & Lehmann, 1994; Choi *et al.*, 2004; Cronin *et al.*, 1997; Liang & Zhang, 2011; Ryu, Lee, & Kim, 2012; Sweeney, Sautar, & Johnson, 1999).

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The behavioral intentions occur during the post-purchase experience and predict the customers' action from the service they consumed (Wilkie, 1994). The more positive the customer's experience, the more likely he or she is to reuse the service (Burton, Sheather, & Roberts, 2003). Thus, a focus on the favorable behavior experience is needed for a repurchase to occur. This situation has extremely important to managerial implications for building long-terms profits (Olorunniwo, Hsu, & Udo, 2006).

2.4 The Customer Experience Variables

It is critically important to define and measure the variables to achieve the validity of the research. The conceptualization of variables is defined as 'a process of specifying observations and measurements that give concepts definite meaning for the purpose of a research study' (Babbie, 2007, p. 157). The operationalization of variables is an extension of conceptualization that specifies the exact procedures to measure the attributes of variables. Researcher provides the operational definitions to specify the relevance of variables to a concept that will be measured. In this research, five latent variables were identified to explain a systematic view of customer experience phases, including cognitive, affective and behavioral. The variables are Service Personal Values, Service Value, Service Quality, Emotional Satisfaction and Favorable Behavioral Intentions. Table 2.1 describes the conceptualization and operationalization of customer experience variables. The discussions of the variables of customer experience are presented in the following sub-sections.

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2.4.1 Cognitive Phase

Drawing on the MEC theory, customers evaluate the service information at several cognitive levels, namely Service Personal Values, Service Value and Service Quality. The following section discusses the conceptualization and operationalization of customers' cognitive variables.

2.4.1.1 Service Personal Values

The theorists have explored the concept of values across various disciplines, including psychology, sociology and anthropology (Schwartz, 1992). Rokeach (1973) defined values as 'an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence' (p. 5). According to Rokeach, values are categorized into two types. First, object values are referred to the values of the object which gained through a comparison with other object. The object values have a significant meaning with the amount individuals paid when acquired the object. Second, individual values are concerned with the values owned by individuals. Among these types of values, the individual or personal values, such as self-reliance and stability in life, can increase our understanding of individuals' behavior (Clark & Mickens, 2002; Chou *et al.*, 2011; Long & Shiffman, 2000).

The personal values have extensively been researched in product-based settings however, they have rarely been explored and examined in service setting (Lages & Fernandes, 2005). The MEC model postulates that service personal values is the highest abstraction level, and they are considered as a key element of customers' cognitive structure (Lages & Fernandes, 2005; Zeithaml, 1988). The process of

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buying a service begins with the recognition of the ultimate goal that customers wish to achieve in their lives, such as comfortable life. It is essential to build intimate relationships between customers and service providers to understand personal values in service context (Liu, Ma, & Zhao, 2007).

Several established quantitative scales have tried to operationalize personal values, including Rokeach Value System (RVS), Values of Lifestyle (VALS), and Lists of Values (LOV). The RVS (Rokeach, 1973) operationalized personal values into two dimensions, namely instrumental values and terminal values. The instrumental values are associated with individual's model of conduct behavior. On the other hand, terminal values are concerned with individual end-states of existence. Mitchell (1983) proposed VALS scale, which measured personal values based on the characteristics of psychology customer segmentation system. VALS measures personal values according to nine life-styles items, specifically, achievers, belongers, sustainers, survivors, i-am-me, emulators, experiential, societally conscious, and integrated. Kahle (1983) introduced the LOV scale. LOV views personal values as cognitive presentations of universal human requirements, which include social interaction requirement and social institutional demands that individual experiences. According to LOV scale, personal values are operationalized with nine single ruler items. The items cover a sense of belonging, warm relationships with others, being well respected, fun and enjoyment of life, security, excitement, self-fulfillment, a sense of accomplishment, and self-respect. Although aforementioned scales have been widely used and tested cross-culturally (Arambewela & Hall, 2011), only few scales have been developed to measure personal values behind services usages.

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In 2005, Lages and Fernandes developed the personal values scale in mobile services sector, known as SERPVAL (service personal values). According to Lages and Fernandes (2005), service personal values are defined as 'customer's overall assessment of the use of a service based on the perception of what is achieved in terms of his own personal values' (p.1564). SERPVAL suggest that personal values deal with the end states of our existence or the ultimate goals that people wish to achieve in their lives. The operationalization of SERPVAL includes three broad groups of individual values dimensions, namely service values to peaceful life (SVPL), service values to social recognition (SVSR), and service values to social integration (SVSI). Nevertheless, the scale still needed further validation in other types of service users across different countries to establish its generalizability (Durvasula, Lysonski, & Madhavi, 201; Lages & Fernandes, 2005; Liu, Ma, & Zhao, 2007; Thuy & Hau, 2010).

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2.4.1.2 Service Value

The service value has been considered as an important construct in the customers' decision-making process (Dodds, Monreo, & Grewal, 1991; Heskett, Sasser, & Harl, 1990; Zeithaml, 1988). Although the concept of value has been documented in previous literature, such as Zeithaml (1988), this concept has received increasing attention among the researchers only recently (Flint, Blocker, & Boutin, 2011; Ledden, Kalafatis, & Samouel, 2007; Sharma, Chen, & Luk, 2012; Ryu, Lee, & Kim, 2012). The researchers have asserted that service value could explain customers' purchase intentions (Cronin *et al.*, 1997; Flint, Woodruff, & Gordial, 2002). Early discussion of value focuses on monetary perspective, the value of which is defined when less is paid for goods. From an economic perspective, value refers to consumer

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surplus as the difference between the highest prices that consumers are willing to pay and the amount practically paid (Bishop, 1984). Likewise, the marketing researchers have viewed the concept of value in term of pricing, which involves customers' perceived value and sacrifices as the main components to determine the perceived value of product (Payne & Holt, 2001).

The trade-off framework by Zeithaml (1988) has been widely used to conceptualize the service value in product or service context. According to trade-off framework, service value is conceptualized as the result of a customers' cognitive trade-off between the benefits (gets) and sacrifices (gives). When applied in service context, the consumers may cognitively integrate their perceptions of what they get and what they have to give up from the service experience (Kuo, Wu, & Deng, 2009). The benefits refer to the quality of the service, whereas sacrifices are concerned with the money expended, time and effort. The benefits and sacrifices might vary across customers. The trade-off framework operationalizes the service value through four single ruler indicators. First, value is low price. Second, value is whatever customer wants in the service. Third, value is the quality customer gets from the price customer pays and fourth, value is what customer gets for what customer gives. However, this operationalization has been criticized because it only includes the monetary cost that is the only indicator to measure the sacrifices (Cronin *et al.*, 1997; Tam, 2004).

Money is often utilized as a key indicator to measure what customers have to sacrifice to obtain the services. Sacrifices mean more than the money paid for a certain goods or services. In service context, sacrifices are a broader concept, which

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covers the non-monetary costs, such as time, effort and risk consumption (Cronin *et al.*, 1997; Cronin, Brady, & Hult, 2000; Lai & Chen, 2011; Lovelock, 2001). Besides the monetary cost, it is crucial to consider the non-monetary cost as well to measure the sacrifices made by customers to obtain the service.

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2.4.1.3 Service Quality

Service quality is the lowest level of customer's cognitive structure. The concept of service quality has receiving tremendous attention in service research since 30 years ago. Generally, service quality is defined as a customers' evaluation of an entity's overall excellence or superiority (Zeithaml, 1987). The customer assesses the service quality through various attributes, such as intangible and tangible (Gutman, 1982). Gronroos (1984) introduced Gronross model and identified three key dimensions of service quality, namely technical quality, functional quality and corporate image. Gronross' model postulates that service quality needs to reflect both technical and functional quality while increasing the image of the company. However, service quality is widely conceptualized from expectancy-disconfirmation paradigm (EDP) (Parasuraman *et al.,* 1985, 1988, 1991).

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Drawing on EDP, service quality is defined as the discrepancy between customers' perceptions of service received and their expectations. The expectations are viewed as desires or wants of customers, whereas customers' perceptions are subjective assessment of actual service experience. Based on EDP paradigm, SERVQUAL (service quality) scale was developed and extensively used to gauge quality attributes in multi-services settings (Parasuraman *et al.,* 1985, 1988, 1991). SERVQUAL consists of 22 indicators representing five dimensions, namely reliability,

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responsiveness, assurance, empathy and tangibles. Service quality is measured based on a gap analysis (perceptions (P) – expectations (E)). Thus, if customers' perceptions exceed their expectations (P>E), service quality is very satisfactory. When customers' perceptions equal their expectations (P=E), service quality is satisfactory. However, when customers' expectations exceed their perceptions (E>P), service quality is poor. Despite its popularity, SERVQUAL has been subjected to a number of theoretical and operational criticisms (Buttle, 1996). Several researchers have emphasized the problems with SERVQUAL scale, including the conceptual definition of ambiguity, theoretical justification of expectations in measuring service quality, and the link between service quality and satisfaction/dissatisfaction (Cronin & Taylor, 1994; Sultan & Wong, 2010; Teas, 1993).

The operationalization of the SERVQUAL has continued to evoke discussion. Cronin and Taylor (1992) refuted the SERVQUAL scale and developed an alternative method of operationalizing service quality using SERVPERF (service performance) scale. According to SERVPERF, service quality is a measure based on the customers' perceptions only. The literature has supported the validity of perceptions-only measure due to its ability to produce a better result compared to perception-expectation measure (gap analysis) (Bayraktaroglu & Atrek, 2010; Brady, Cronin, & Brand, 2002; Seth, Deshmukh, & Vrat, 2005). However, SERVQUAL, SERVPERF and Gronroos scales could not be replicated in the context of higher education. According to Sultan and Wong (2010), higher education and commercial setting are two different environments. Consequently, the attributes of these scales may not be accurate in measuring service quality in higher education. Carrillat,

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Jaramillo and Mulki (2007) affirmed that service quality dimensions vary across service types, firms, provider, industry and even culture.

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HedPERF (higher education performance) is a scale developed to measure service quality within higher education sector (Abdullah, 2005, 2006). This scale emphasizes quality delivery activities in higher education, including academic and non-academic aspect from the students' standpoint. According to the HedPERF scale, service quality is conceptualized as an assessment of the total higher education service environment based on the students' experience. Service quality is measured using 41 indicators representing five dimensions, namely non-academic aspects, academic aspects, reputation, programs issue, and access. The HedPERF instrument has been empirically tested for unidimensionality, reliability and validity using both exploratory and confirmatory factor analyses (CFA) (Abdullah, 2005). Brochado (2009) conducted a research to compare five alternative measures of service quality in higher education including service quality (SERVQUAL), importance-weighted SERVQUAL, service performance (SERVPERF), importance-weighted SERVPERF, and higher education performance (HEdPERF). The research concluded that SERVPERF and HEdPERF have the best measurement capability in higher education setting. However, HEdPERF presented the higher levels of internal consistency.

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2.4.2 Affective Phase

Customer experience involves customer's affective responses phase (Otto & Ritchie, 1996). Affect refers to positive or negative feelings (Wilkie, 1994). Spreng, MacKenzie and Olshavsky (1996) narrowed down the concept of customers' affective reactions as the customers' emotional reactions, which is consistent with the concept of customer satisfaction. Previous literature, has questioned whether customer satisfaction is a cognitive construct or emotional construct (Babin & Griffin, 1998; Bagozzi, Gopinath, & Nyer, 1999). In previous research, customer satisfaction has been defined as a cognitive construct, and it seems that affective construct has been largely ignored (Stauss & Neuhaus, 1997). The Expectation-Disconfirmation Paradigm (EDP) is a well-known paradigm to explain customer satisfaction as a cognitive construct (Oliver, 1980). EDP postulates that satisfaction is a result of customers' perceptions of the discrepancy between the perceptions of service delivery performance and expectations. However, the conceptualization of satisfaction has been criticized from EDP viewpoint. Westbrook and Reilly (1983) claimed that the aspects for which expectation has never existed could satisfy the customers. In additions, Oliver (1993) criticized that the conceptualization of customer satisfaction from EDP perspective overlaps with the service quality.

Recently, renewed attention has been focused on the concept of emotional satisfaction in the service consumption experience (Li, Dong, & Chen, 2012). Drawing on value-percept disparity theory, satisfaction is viewed as the emotional responses that have been generated from a customers' cognitive evaluation process. Satisfaction, is then conceptualized as the pleasurable emotional state resulting from evaluation of a service as leading or achieve one' values (Westbrook & Reilly,

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1983). To date, very limited emotional (affective) scales have been developed to measure the customer satisfaction. However, researchers have attempted to operationalize the customer satisfaction by adapting the emotional concept. For instance, Westbrook and Oliver (1991) operationalized satisfaction with 'emotion-based' indicators, which include interest, enjoyment, surprise, anger and shame/shyness. Liljander and Strandvik (1997) have developed a more comprehensive emotional satisfaction scale that can be divided into two groups: positive emotions (happy, hopefully and positive surprise) and negative emotions (angry, depressed, guilty and humiliated). Yu and Dean (2001) explored the role of emotions in satisfaction among students in Australian universities, supporting the reliability of emotional scale developed by Liljander and Strandvik (1997). Moreover, researchers agree that satisfaction refers to the degree to which the customer believes that an experience evokes positive emotions. On the other hand, dissatisfaction strongly evokes customers' negative emotions (Rust & Oliver, 1994).

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2.4.3 Behavioral Phase

Marketing strategy is a tool that assists a service organization to achieve competitive advantage. Rust and Zahorik (1993) clarified two types of marketing strategy effects, namely offensive effects (capturing new customers) and defensive effects (retaining customers). The authors asserted that keeping the existing customers, rather attracting new ones, would assist company's spending at optimal level. This argument is in line with Thuy and Hau (2010) and Yang and Peterson (2004) who affirmed that capturing the new customers will increase the company cost through marketing expenses, such as advertising and promotion. Zeithaml, Berry and Parasuraman (1996) conducted a seminal research, which reveals that the behavioral

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intentions are crucial indicators that signal whether customers remain with or defect from the company. The behavioral intentions are frequently used as measures of actual behavior because intentions are the most reliable predictors of customers' real behavior (Ki & Hon, 2012).

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Recently, the concept of favorable behavioral intentions has increasingly gained attention among researchers in service context due to its ability to retain the customer with the organization (Bodet, 2008; Berry & Carbone, 2007; Flint, Blocker, & Boutin, 2011; Mascarenhas, Kesavan, & Bernacchi, 2006; Sweeney, Soutar, & Mazzarol, 2012). According to Oliver (1997), favorable behavioral intentions are conceptualized as 'a deeply held commitment to repurchase or repatronize a preferred product or service in the future'. Although, few attempts have been made to operationalized behavioral intentions, the service pioneers have measured favorable behavioral intentions in a unidimensional way.

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Zeithaml, Berry and Parasuraman (1996) have categorized favorable behavioral intentions into five indicators, including loyalty, switch, pay more, external response, and internal response. These indicators have been frequently used to operationalize favorable behavioral intentions in service context (Jani & Han, 2011). For instance, Sheu (2011) conducted a research to explain students' favorable behavioral intentions. The research found that favorable behavioral intentions could generate re-enrolment intentions, provision of positive words-of-mouth, and encourage friends and relatives to apply for admission. Durvasula, Lynsonski and Madhavi (2011) stated two items, namely loyalty and recommendation, measure the favorable behavioral intentions. The research concluded that students with high personal values

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will behave favorably by remaining loyal and recommending the service to other customer.

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Table 2.1: The Conceptualization and Operationalization of Customer Experience Variables

Variables	Scales	Conceptualization	Operationalization
Service Personal Values (SPV)	SERPVAL (Lages & Fernandes, 2005)	Service personal values are conceptualized as customer's overall assessment of the use of a service based on the perception of what is achieved in terms of his own personal values.	SERPVAL is assessed through the second-order construct (multidimensional) as follows: i. SVPL (service values to peaceful life) with four items, ii. SVSR (service values to social recognition) with five items, iii. SVSI (service values to social integration) with three items.
	List of Values (LOV) (Kahle, 1983)	Personal values are conceptualized as cognitive representations of universal human requirements, which include social interaction requirement and social institutional demands experienced by the individual.	LOV is measured with nine single ruler items (unidimensional) as follows: i. a sense of belonging, ii. warm relationships with others, iii. being well respected, iv. fun and enjoyment of life, v. security, vi. excitement, vii. self-fulfillment, viii. a sense of accomplishment, ix. self-respect.
	Values and Lifestyle (VALS) (Mitchell, 1983)	Personal values are defined as characteristics of psychographic customer segmentation system.	VALS is measured with nine lifestyles items (unidimensional) as follows: i. achievers, ii. belongers, iii. sustainers, iv. survivors, v. I-am-me, vi. emulators, vii. experiential, viii. societally conscious, and ix. integrated.
	Rokeach Value System (RVS) (Rokeach, 1973)	RVS defined personal values as an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence.	RVS is measured through second-order construct (multidimensional) as follows: i. instrumental values associates with individual's mode of conducts/ways of behavior (18 items), and ii. terminal values associates with an individual's desired end-states of existence of goal of life (18 items).
Service Value (SV)	Service Value (Zeithaml, 1988)	Service value is conceptualized as an overall assessment of the utility of product or service based on perceptions of what is received and what is given. It needs a tradeoff between benefits (quality) and sacrifices.	Service Value is measured with four single ruler items (unidimensional) as follows: i. value is low price, ii. value is whatever customers want in a product/service, iii. value is the quality customers get for the prize they pay, and iv. value is what customers get for what they give.
	Consumer Value (VAL) (Ledden, Kalafatis, & Samouel, 2007)	Customer value is defined as the result of a cognitive trade-off between benefit and sacrifices.	VAL is measured through second-order construct (multidimensional) as follows: i. get (image, functional value, social value, epistemic value, conditional value). ii. give (monetary sacrifices, non-monetary sacrifices).

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Service Quality (SQ)	Gronroos Model (Gronroos , 1984)	Service quality is conceptualized based on the outcome (what was delivered) and the process (how the service was delivered) of service delivery.	Service quality is measured through the second-order construct (multidimensional) as follows: i. technical/outcome quality, ii. functional (process), and iii. image (filter in service quality perceptions).
	SERVQUAL (Parasuraman *et al.*, 1985, 1988, 1991)	Service quality is conceptualized based on an expectancy disconfirmation paradigm, which compares the perceptions of service received with expectations.	Service quality is measured through the second-order construct (multidimensional) as follows: i. tangibles, ii. reliability, iii. responsiveness, iv. assurance, and v. empathy.
	SERVPERF (Cronin & Taylor, 1992)	Service quality is conceptualized as customer assessments of actual service experience.	Service quality is measured through second-order construct (multidimensional) as follows: i. tangibles, ii. reliability, iii. responsiveness, iv. assurance, and v. empathy.
	HedPERF (Abdullah, 2005, 2006)	Service quality is conceptualized as an assessment of the total service environment, as experienced by students in higher education.	Service quality is measured through the second-order construct (multidimensional) as follows: i. non-academic aspects, ii. academic aspects, iii. reputation, iv. programs issue, and v. access.
Emotional Satisfaction (E-SAC)	'Emotion-based' (Westbrook & Oliver, 1991)	Satisfaction is conceptualized as the customer emotional based resulting from evaluation of a service.	Customer satisfaction is measured with 10 single positive and negative emotional items (unidimensional) as follows: i. interest, ii. joy, iii. surprise, iv. sadness, v. anger, vi. disgust, vii. contempt, viii. fear, ix. shame, and x. guilt.
	Emotional Satisfaction (Liljander &Strandvik, 1997; Yu & Dean, 2001)	Satisfaction is conceptualized as the emotional consumption response to one's perceptions of the series of attribute that compose the product or service performance.	Emotional satisfaction is measured with second order construct (multidimensional) as follows: i. positive emotions with three items: happy, hopeful, and positive surprised, and ii. negative emotions with four items: angry, depressed, guilty, and humiliated.
Favorable Behavioral Intentions (FBI)	Favorable Behavioral Intentions (Zeithaml, Berry, & Parasuraman, 1996)	Favorable behavioral intentions can be defined as the strength of customer willingness to try while performing certain behaviors.	Favorable behavioral intentions are operationalized with five items as follows: i. the customer say positive things about service, ii. recommend the service to other customer, iii. remain royal to company, iv. spend more with company, v. pay price premium

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2.5 The Relationships among Customer Experience Variables

This section explores the direct relationship between the customer experience variables, as suggested by the causal sequence of cognitive-affective-behavioral model. The customer experience variables include Service Personal Values (SPV), Service Value (SV), Service Quality (SQ), Emotional Satisfaction (E-SAC), and Favorable Behavioral Intentions (FBI).

2.5.1 The effect of SPV on E-Sac and FBI

The research on SPV is relatively limited due to its individual and complexity rather than other customers' cognitive constructs (Durvasula, Lysonski, & Madhavi, 2011; Lages & Fernandes, 2005; Thuy & Hau, 2010). Although the research on the relationship between SPV and E-SAC is still at an early stage, there are theoretical reasons to claim that SPV has a significant effect on customer satisfaction (CS) (Lages & Fernandes, 2005). The previous empirical studies revealed that the lowest levels of customers' cognitive functioning, including SQ and SV, have a positive relationship with CS (Cronin & Taylor, 1992; Zeithaml, 1988). Therefore, SPV reflecting the highest level of customers' cognitive, might also have a significant effect on CS. This implies that the customers are satisfied when they feel that the service fulfill their personal values, including those that are self-oriented and social oriented (Khademalomoum, 2011).

Lages and Fernandes (2005) tested the nomological validity of the relationship between SPV and CS. The results demonstrated that SPV dimensions, which include service values to peaceful life (SVPL), service values to social recognition (SVSR), and service values to social integration (SVSI), correlated positively and significantly

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with customer satisfaction. Recently, Thuy and Hau (2010) conducted a research to examine the link between SPV and CS in banking service. The research found that SPV are the nature of an enduring belief system and able to predict the CS. The research further claims that service providers should not only focus on the service quality as an indicator to improve the service delivery, but also pay attention to personal values embraced by the customers. However, the previous empirical studies have solely linked SPV and CS, which satisfaction has operationalized as a cognitive construct based on service attributes. The relationship between SPV and CS, as an emotional construct, has been scarcely examined among the researchers. It is crucial to understand that personal values can be referred to as customers' beliefs that strongly influence emotions (Laverie *et al.,* 1993; Westbrook & Oliver, 1991). Thus, future research should examine the relationships between SPV and customers' emotional satisfaction.

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The customers' personal values facilitate a richer understanding of the ways in which such personal values might affect FBI, including loyalty, word of mouth, and recommendation (Durvasula, Lysonski, & Madhavi, 2011). According to Durgee (1996), the best strategy to retain the customers is understand their personal values systems. The researchers assert that personal values derived from standards or norms lead to post purchase behavior (Carlson & Kacmar, 2000; Corfman, Lehmann, & Narayan, 1991; McCarty & Shrum, 1993). The previous research has revealed that SPV significantly affect the FBI. For instance, Marandi, Little and Sekhon (2006) have empirically found that SPV has a positive effect on customer loyalty in the service sector. More recently, Link and Thuy (2011) investigated the path between SPV and customers' loyalty in retailing banking service. The results empirically

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proven that SPV positively affect the behavior of a customer. The authors claimed that SPV provide a frame of reference based on their own values, upon which the customers judge the service.

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2.5.2 The effect of SV on E-Sac and FBI

Previous research has frequently focused on the antecedents of SV such as quality and trust (Agarwal & Teas, 2001; Cronin *et al.*, 1997; Sweeney, Soutar, & Johnson, 1999). However, the research on the consequences of SV has only recently included satisfaction and behavioral intentions, have received increasing attention among the researchers (Chen, 2008; Petrick, 2004; Ryu, Lee, & Kim, 2012). As Sanchz-Fernendez & Iniesta-Bonillo (2007) stated, 'it is important to clarify the causal modeling of value in relation to other variables, such as satisfaction, commitment and loyalty' (p. 444). By understanding the relationships between SV and CS as well as behavioral intentions, the service providers could gain and sustain competitive advantage (Ledden, Kalafatis, & Samouel, 2007).

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The effect of SV on CS has been supported in the previous research (Chiou, 2004; Sirdeshmukh, Singh, & Sabol, 2002; Whittaker, Ledden, & Kalafatis, 2007). Most researches have viewed CS as an attributive satisfaction, which refers to customers' cognitive satisfaction based on service attributes. However, the relationships between SV and customers' emotions have rarely addressed in service literature. SV is considered a cognition-based construct, which affects the customer affective responses (Oliver 1993(b)). Chiou (2004) conducted a research to examine the relationship between SV and customers' emotions satisfaction. Although the results showed a relationship between both construct, the concept of CS as an affective

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construct still needs a further operationalization. Lam, *et al.* (2004) investigated the relationship between customer value and satisfaction in B2B context. Although the authors have the importance of E-SAC, the customer satisfaction was operationalized based on the overall satisfaction and congruence with expectations.

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SV has been considered one primary driver of the behavior intentions (Brady & Robertson, 2001). The researcher asserted that the higher perception of the value received from service could motivate the customer to patronize the service again (Wang, 2010). Therefore, service value has been found to be positively related to customer favorable outcomes, such as loyalty (Chen, 2008).

2.5.3 The effect of SQ on E-Sac and FBI

The relationship between SQ and CS has been widely recognized in previous literature. Nevertheless, the confusion regarding the interchangeably use of the SQ and CS (Ham, 2003). The most widely accepted conceptualizations of SQ and CS refers to customers' expectations prior the consumption are compared with their perceptions of service performance (Parasuraman *et al.*, 1985; Oliver, 1980). However, this conceptualization has been criticized because both constructs are being derived from the same theoretical source, namely Expectancy-Disconfirmation Paradigm (EDP) (Baker & Crompton, 2000). Consequently, a considerable debate has emerged about the relationship between SQ and CS or about whether SQ is an antecedent to or consequence of satisfaction (Buttle, 1996; de Ruyter, Bloemer, & Peeters, 1997). As stated by Teas (1993), the confusion in determining the link between SQ and CS is due to the lack of consensus on the conceptualization and operationalization of the two constructs.

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Many researchers believe that SQ and CS are two different constructs (Anderson & Sullivan 1993; Bitner *et al.*, 1997; de Ruyter *et al.* 1997; Rust & Oliver, 1994; Wu, Liu, & Hsu, 2008). This group of researchers has suggested that SQ is an antecedent of CS. Several researches offered the empirical evidence to support the relationship between SQ and CS (Andreassen & Lindestad, 1998; Brady & Robertson, 2001; Ravichandran *et al.*, 2010; Taylor & Baker, 1994). The authors postulated that the higher the SQ experienced by the customers, the greater their satisfaction. The early research efforts have focused on viewing the CS as a cognitive evaluation process (Tam, 2004). However, relatively few studies have considered CS as an emotional feeling resulting from an evaluative responses process (Ladhari, 2009). In addition, emotions may distinguish the concept of SQ from CS (Oliver, 1993 (a)). The basic model of the relationships between SQ and E-SAC can be derived from Bagozzi (1992), evaluative-response-coping framework. According to Bagozzi's framework, cognitive evaluations precede emotional responses. Among the research that examines the relationship between SQ and E-SAC, Wong (2004) found out that SQ was positively associated with E-SAC.

Zeithaml, Berry and Parasuraman (1996) offered strong empirical support for the intuitive notion that improved SQ could increase FBI. Several researches have examined the association between SQ and more specific FBI. Lee, Yoon and Lee (2007) have empirically proven that SQ has a positive relationship with tourists' willingness to recommend to others. Alexandris, Dimitriadis and Markata (2002) conducted a research to examine the relationships between SQ and behavioral intentions in hotel industry. The results indicated that SQ dimensions have a significant effect on word-of-mouth communications.

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2.5.4 The Effect of E-SAC on FBI

Most CS research has focused solely on the cognitive component, neglecting the crucial role of affective component (Ladhari, 2009; Liljander & Strandvik, 1997; Wong, 2004). Stauss and Neuhaus (1997) asserted that CS includes the cognitive and emotional judgment. However, the authors asserted that it is inappropriate to draw a conclusion that the customer has experienced the emotions and cognition at the same level. Therefore, both components of satisfaction should be considered separately. Yu and Dean (2001) who compared the cognitive satisfaction and emotional satisfaction supported this proposition. They found that emotional component is a better predictor of customer behavioral compared to cognitive component.

The previous research has shown that customer emotions influence behavioral, including loyalty and word-of-mouth communications (Derbaix & Vanhamme, 2003; Westbrook, 1987; White & Yu, 2005). Specifically, the customers' positive emotions influence their decisions to stay or continue with the services. Furthermore, the positive emotions lead the customers to share the positive experience with others (Liljander & Strandvik, 1997). On the other hand, the negative emotions tend to lead to the opposite decision, such as leave the services (Bagozzi, 1999). Hicks *et al.* (2005) found out that positive emotions significantly affect repurchase intentions. White and Yu (2005) have empirically proven that customers' emotions, including hopefulness, happiness, and pleasant surprise, were positively associated with positive word of mouth and willingness to pay more.

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2.6 The Customer Experience Research in Higher Education

Nowadays, Malaysian higher education market becomes more customer-oriented due to the growing numbers of international students (Bhandari & Blumenthal, 2009; Sheu, 2011; Durvasula, Lysonski, & Madhavi, 2011). As a result, the local universities are struggling to provide the superior services to fulfill the high demand for the valuable services from the international students (Jalali, Islam, & Ku Arifin, 2011). The following paragraph discusses the issues and challenges regarding the recent empirical studies on the international students' experience in Malaysian higher education.

Dealing with international students creates additional responsibilities and expectations for the universities. The international students may experience service consumption differently compared to local students (Yee, Hazlin, & Moktar, 2013). Rasli, Shekarchizadeh and Iqbal (2012) assessed the Iranian postgraduate students' perceptions of service quality in Malaysian research universities based on a modified SERVQUAL dimensions that include tangibles, reliability, responsiveness, assurance, and empathy. The research universities involved in the research were Universiti Putra Malaysia, Universiti Teknologi Malaysia, Universiti Kebangsaan Malaysia, Universiti Malaya and Universiti Sains Malaysia. The results drawn from 163 Iranian postgraduate students indicated that the perceptions of service quality at Malaysian research universities were negative. The empathy dimension represents the highest gap of quality attributes, with mean value -0.681. The research has suggested that adjustment problems such as different culture, academic setting and communal interaction, are the main factor contribute to this phenomenon.

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Another empirical research conducted by Siang (2012) explored the satisfaction among international students with academic program in Malaysian higher education institutions. The research involved 355 international students from China, Iraq and Indonesia. The result indicated that the international students at Malaysia public universities were less satisfied compared to those in private universities. The research suggests the training on the education delivery aspects, such as teaching and learning, should be offered to academicians in order to fulfill the needs of international students.

Rajab, Abdul Rahman and Shaari (2011) examined the international students' experience with quality of teaching and learning in Malaysia public universities using SERVPERF model. The research was carried out at Universiti Teknologi Malaysia (UTM). The group of international students from Indonesia and Middle East were selected as a research sample. The study indicated that the international students' perceptions of the quality of education in Malaysian public universities are at moderate level. The moderate level indicates that there are still some areas, including supervision and teaching quality, which do not completely satisfy the international students. The research recommends that the Malaysian public universities, particularly UTM, need to be more proactive by re-examining the service rendered to provide better quality of service.

An empirical research conducted by Shekarchizadeh, Rasli and Hon-Tat (2011) on 522 postgraduate international students' perceptions towards service quality delivery in Malaysia universities utilize the gap analysis. The service quality domains were professionalism, reliability, hospitality, tangibles and commitment. The results

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indicated that the postgraduate international students have negative perceptions of service quality delivery in Malaysian public universities. It is recommended that public universities ensure better delivery of education services in order to provide positive experiences to the international students.

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Jalali, Islam and Ku Ariffin (2011) investigated the factors that affect the local and international students' satisfaction in Malaysian higher learning institutions. The satisfaction factors involve the academic-related and non-academic-related activities. The findings have shown no difference between local and international students in choosing the important items. However, the international students ranked the quality of staff, teaching ability, and staff availability lower. Overall, the research concluded that the services offered by Malaysian higher learning institutions were moderate from student perspective. The research suggested that the service activities must be delivered to suitable standards. The authors also suggested that the service delivery activities must cover the ability to develop and instill good values, attitudes and strong personalities.

To sum up, the previous research has concluded that the international students' perceptions of service experience in Malaysian public universities are only at a moderate level. The customer experience should be implemented as one of the crucial agendas to enhance the ability of Malaysian universities to offer the services that meet the international students' demand. However, the current research on customer experience within higher education context still lacks integrative, profound and structured knowledge. Service quality and customer satisfaction are two indicators that have been widely used to examine the customer experience in higher

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education context. It is crucial to note that the concept of customer experience offers a much greater depth than do these two concepts (Drotskiie, 2009; Shaw & Iven, 2005).

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2.7 Research Framework and Hypotheses Development

The customer experience implies three phases of individual interactions, namely cognitive, affective and behavioral (Edvardsson, Enquist, & Johnston, 2005; Johnston & Clark, 2011; LaSalle & Britton, 2003; Ng & Forbes, 2009; Schmitt, 1999; Verhoef *et al.*, 2009; Walter, Edvardsson, & Öström, 2010). The cognitive-affective-behavioral model has been widely used to explain the causal sequence of customer experience phases within the service context (Bagozzi, 1992; Oliver, 1997). However, this model still lacks theoretical foundation to specify the relevant variables that represent each phase of customer experience as well as their interrelationships (Drotskiie, 2009; Gentile, Spiller, & Noci, 2007; Johnston & Kong, 2011; Palmer, 2010; Verhoef *et al.*, 2009). Thus, the conceptual framework, as illustrated in Figure 2.5, was developed by integrating the theories and knowledge across multiple research areas, including management, consumer behavior, marketing and higher education.

The Means-End Chain (MEC) theory postulates that service information is retained and evaluated in customers' memory at several levels of abstraction, including service personal values, service value, service quality and service attributes (Lages & Fernandes, 2005; Zeithaml, 1988). Each cognitive level evaluates different types of service information. The researchers claim that the customers evaluate the service quality through the service attributes, such as intangible and tangibles (Gutman,

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1982; Gronroos, 1984; Parasuraman *et al.*, 1985, 1988, 1991). Therefore, this research presented customers' cognitive phase by three abstraction levels, namely service personal values (SPV), service value (SV) and service quality (SQ). As illustrated in Figure 2.5, SPV is the highest level of customers' cognitive structure. SPV refers to customers' beliefs or conceptions about end goals or desirability (Rokeach, 1973). SV has been considered as one of the crucial customers' cognitive levels in service literature (Cronin *et al.*, 1997; Zeithaml, 1988). SV is defined as a cognitive trade-off between customers' perceptions of quality and sacrifices. SQ is the lowest level of customers' cognitive structure. Generally, SQ is conceptualized as a customer's evaluation of an entity as excellent or superior overall (Zeithaml, 1987).

The previous literature has indentified two research limitations of MEC model. First, the research on SPV is relatively limited, even though the lowest level of customers' evaluation, particularly SQ has been extensively investigated (Darvasula, Lysonski, & Madhavi, 2011; Lages & Fernandes, 2005; Liu, Ma, & Zhao, 2007; Thuy & Hau, 2010). Second, the qualitative laddering technique for analyzing the MEC model has been criticized (Botschen *et al.*, 1999; Gengler & Reynolds, 1995; Grunert & Grunert, 1995; ter Hofstede *et al.*, 1998; Lin, 2002; Veludo-de-Oliveira, Ikeda, & Campomar, 2006). The laddering technique forces the respondents into linear hierarchical structure formation and neglects the potentiality of service information connections. The researchers claim that a network presentation to analyze MEC is more accurate than the laddering technique. As illustrated in Figure 2.5, the research framework was developed through the network presentation linking the customers' cognitive levels to other customer experience phases.

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Theoretically, customers' cognitive evaluation precedes emotional satisfaction (E-SAC) (Westbrook & Reilly, 1983). Spreng, MacKenzie and Olshavsky (1996) narrowed down the concept of customers' affective experience, which is consistent with customer satisfaction (CS). The review of literature concluded that most research has defined CS as a cognitive construct, neglecting the crucial role of the emotional construct (Ladhari, 2009; Stauss & Neuhaus, 2001; Wong, 2004; Yu & Dean, 2001). The Expectation-Disconfirmation Paradigm (EDP) has been used widely to explain CS (Oliver, 1980). EDP views the concept of CS as a customer evaluation process. However, EDP has been criticized due to its conceptual standpoints and measurement (Cronin & Taylor, 1994; Halstead, Hartman, & Schmidt, 1994; McGill & Lacobucci, 1992; Woodruff *et al.,* 1991; Yuksel & Yuksel, 2001). In addition, the conceptualization of CS from EDP perspective overlaps with SQ (Oliver, 1993(b)). In this research, CS is conceptualized as an emotional construct. Drawing on Value-Percept Disparity theory, E-SAC is defined as the pleasurable emotional responses resulting from customer evaluation of the service experience (Westbrook & Reilly, 1983).

The relationships between the customers' cognitive variables (SPV, SV and SQ) and E-SAC have rarely addressed in service literature. The previous studies indicated that SPV positively correlated with CS that defines satisfaction as a cognitive construct (Lages & Fernandes, 2005; Thuy & Hau, 2010). Although there is still lack of research on the relationship between SPV and E-SAC, the researchers postulate that customers' personal values strongly influence emotions (Laverie *et al.,* 1993; Westbrook & Oliver, 1991). The customers will be satisfied when service performance they experience fulfill their personal values, such as self-orientation and

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social-orientation (Khademalomoum, 2011). Consequently, this leads to the first research hypothesis, as follows:

H1: SPV has a significant effect on E-SAC

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Service value can be viewed as a cognitive-based construct, which affect the customer affective responses (Oliver, 1993 (a)). Several previous empirical studies have indicated the positive relationship between SV and E-SAC (Chiou, 2004; Lam *et al.*, 2004). However, the concept of E-SAC as an affective construct needs further operationalization. This leads to the second research hypothesis, as follows:

H2: SV has a significant effect on E-SAC

The relationship between SQ and CS has been widely examined in the previous research (Andreassen & Lindestad, 1998; Brady & Robertson, 2001; Ravichandran *et al.*, 2010; Taylor & Baker, 1994). Many researchers have claimed that SQ is an antecedent of CS and offered empirical evidence of the relationship between SQ and CS (Anderson & Sullivan 1993; Bitner *et al.*, 1997; de Ruyter *et al.* 1997; Rust & Oliver, 1994; Wu, Liu, & Hsu, 2008). However, the conceptualization of SQ and CS has been criticized because both constructs have been derived from the same theoretical source, namely EDP (Baker & Crompton, 2000). Thus, investigating the concept of E-SAC might distinguish SQ and CS. The empirical research conducted by Wong (2004) has shown that SQ is positively associated with E-SAC. This means that the higher SQ experienced by the customers, the more positive their emotions. As a result, this leads to the third research hypothesis, as follows:

H3: SQ has a significant effect on E-SAC

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The Fishbein Model postulates that the behavioral intentions are the most accurate indicators of the customer behavior (Azjen & Fishbein, 1980). Recently, the concept of FBI has gained attention due to its ability to retain the customer with the organization (Bodet, 2008; Flint, Blocker, & Boutin, 2011; Sweeney, Soutar, & Mazzarol, 2012). In this research, the behavioral phase is viewed as the consequence of customers' service evaluation, and it occurs during the post-purchase experience (Wilkie, 1994; Zeithaml, Berry, & Parasuraman, 1996). The previous service research has shown that customer emotions affect their behavior (Derbaix & Vanhamme, 2003; Westbrook, 1987; White & Yu, 2005). The customers' positive emotions increase their willingness to stay or continue with the services. Moreover, the positive emotions lead the customers to share their positive experience with others (Liljander & Strandvik, 1997). The previous researchers found that E-SAC has a positive effect on the customers' favorable behavioral intentions, such as loyalty, positive word of mouth and willingness to pay more (Hicks *et al.*, 2005 White & Yu; 2005). This leads to the fourth research hypothesis, as follows:

H4: E-SAC has a significant effect on FBI

The researchers assert that personal values lead to customers' favorable behavioral intentions (Carlson & Kacmar, 2000; Corfman, Lehmann, & Narayan, 1991; McCarty & Shrum, 1993). The previous empirical research in service sector revealed that SPV positively affects the FBI (Marandi, Little, & Sekhon, 2006; Linh & Thuy, 2011). Consequently, it is hypothesized that:

H5: SPV has a significant effect on FBI

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The researchers claim that SV is a crucial driver that leads to customers' behavioral intentions (Brady & Robertson, 1999). Although research on this topic is still limited, the researcher asserts that SV positively affect favorable outcomes such as loyalty (Chen, 2008; Wang, 2010). Thus, this leads to the sixth research hypothesis, as follows:

H6: SV has a significant effect on FBI

Zeithaml, Berry and Parasuraman's (1996) seminal research asserted that improving SQ might increase customers' favorable behavioral intentions. The previous empirical research has indicated that SQ has a positive effect on specific FBI, including willingness to recommend to others and positive word-of-mouth communications (Alexandris, Dimitriadis, & Markata, 2002; Lee, Yoon, & Lee, 2007). As a result, this leads to the following research, hypothesis:

H7: SQ has a significant effect on FBI

H1, H2, H3, H4, H5, H6, and H7 propose direct relationships among customer experience variables. The cognitive-affective-behavioral model proposed in this research has pointed out that the customers' cognitive variables (SPV, SV and SQ) lead to affective responses (E-SAC), which, in turns drive customer behavior (FBI). In addition to the direct relationships, as described above, this research has also considered indirect relationships. As illustrated in Figure 2.5, the relationships between the customers' cognitive variables and FBI could be explained through E-SAC. In other words, E-SAC plays a role as a mediator or intervening variable. This extension relationships offer this research to further understand the relationship between the customers' cognitive levels (SPV, SV and SQ) and FBI.

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The previous research has investigated the relationship between customer cognitive evaluation and behavioral intentions through the customer satisfaction. For instance, Thuy and Hau (2010) found that CS partially mediates the relationship between SPV and Loyalty. Whittaker, Ladden and Kalafatis (2007) indicated that satisfaction with professional services mediates the relationship between value and customers' intentions. The previous research has also proven that the customers' cognitive satisfaction mediates the relationships between SQ and behavioral intentions (Fornell, 1992; Halstead & Page, 1992). Therefore, three (3) indirect relationships are hypothesized, as follows:

H8: ESAC mediates the relationship between SPV and FBI

H9: ESAC mediates the relationship between SV and FBI

H10: ESAC mediates the relationship between SQ and FBI

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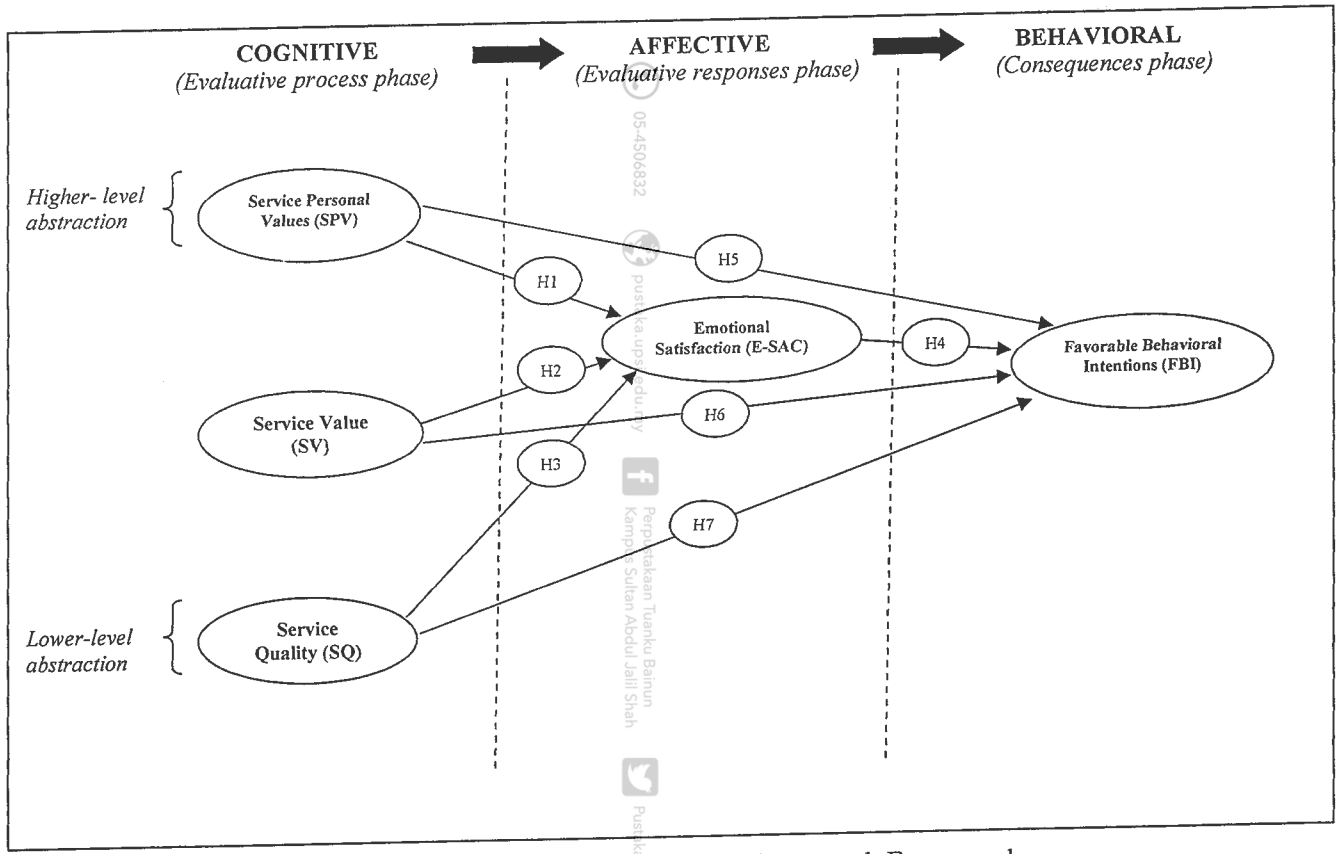


Figure 2.5: The Conceptual Research Framework

2.8 Chapter Summary

International students are viewed as primary customers to the universities. Recently, the issue of ensuring that international students have a positive service experience at Malaysian public universities has gained enormous attention. The previous studies have revealed that the international students are not fully satisfied with the service experience in Malaysian public universities. The research has suggested that universities must deliver the service at a suitable standard and meet the international students' demands. Therefore, further investigation is urgently needed to provide a more systematic overview of customer experience in higher education service delivery.

A concept of customer experience is unique and elusive. Customer experience in service context involves three phases of individual interactions, namely cognitive, affective and behavioral. The cognitive-affective-behavioral model is often used to explain the concept of customer experience. However, this model does not specify the relevant variables that represent each phase of the customer experience as well as their interrelationships. In this research, the customer experience phenomenon is explained using the relevant theories, including the Cognitive-affective-behavioral model, Means-End Chain (MEC) theory, Expectation-Disconfirmation Paradigm (EDP), Value-Percept Disparity theory and Fishbein Model.

The customers' cognitive phase is represented via three abstraction levels, namely service personal values (SPV), service value (SV) and service quality (SQ). SPV is the highest level whereas SQ is the lowest level of the customers' cognitive evaluation. According to MEC model, the higher customers' cognitive level is, the

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more subjective their evaluation of service delivery. The affective phase is represented by emotional satisfaction (E-SAC), and behavioral phase is represented by favorable behavioral intentions (FBI). The review of the related literature has revealed that the concept of SPV and E-SAC are rarely investigated in the service context. Furthermore, the crucial role of E-SAC as a mediating variable that could enhance the relationship between the cognitive and behavioral phase also has also been neglected.

The conceptual research framework was developed by integrating the theories and the gaps from the previous literature. The relationships among SPV, SV, SQ, E-SAC and FBI are derived from cognitive-affective-behavioral model. This indicates that the variables of the customers' cognitive phase, including SPV, SV and SQ has a significant effect on E-SAC, and subsequently influence FBI. The proposed research hypotheses consider both the direct and indirect relationships. The proposed conceptual research framework will be able to enlarge the body of knowledge in service literature. In addition, the developed framework provides a guideline for the manager at universities to manage the service delivery experience from the customers' perspectives.

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CHAPTER 3

METHODOLOGY

This chapter discusses the methodological procedures that were utilized to test the causal relationships among the latent variables reflecting postgraduate international students' experience with higher education service delivery. This chapter begins with the discussion of the crucial aspects involved in research design and includes the purpose of research, units of analysis, and the time dimension. Next, the specific aspects of the research methodology are described in order to address the proposed hypotheses. The aspects of research methodology are research setting, sampling technique and procedures, development of a research instrument, data collection procedures and data analysis techniques.

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3.1 Research Design

Research design is a systematic plan and procedure that support the research decisions from broad assumptions to the detailed methods of data collection and analysis (Creswell, 2009). According to Babbie (2010), research design begins by assessing three crucial aspects, including the purpose of research, units of analysis and the time dimension. These aspects must be specified clearly before proceeding to specific methodology aspects, such as sampling technique, instrumentation, data collection procedures, and data analysis techniques.

This quantitative research seeks to explain the causal relationships among the latent variables of customer experience in higher education service delivery, namely Service Personal Values (SPV), Service Value (SV), Service Quality (SQ), Emotional Satisfaction (E-SAC) and Favorable Behavioral Intentions (FBI). When designing a research project, it is crucial to determine the units of analysis. The units of analysis refer to the characteristics of people or things that researchers observe, describe and explain (Babbie, 2010). In this research, the postgraduate international students (PIS) at Malaysian Research Universities (RU) were selected as the unit of analysis. Additionally, the time dimension is an important aspect in designing a research. The researcher can choose a set of time for observations depending on the objectives of the research. In this research, a cross-sectional research design was applied to achieve specific research objectives. A cross-sectional research involves observations of a population or sample that are made at one point in time (Cooper & Schindler, 2003). The following sections discuss intensively the specific methodology aspects employed in this research.

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3.2 Research Setting

This research was conducted at Malaysian public universities with Research University (RU) status due to the large numbers of postgraduate international students' enrolment. The statistics released by Ministry of Higher Education in 2013 shows that 73% of postgraduate international students' enrolment is at Research Universities followed by Focused Universities (14%) and Comprehensive Universities (13%). To date, Malaysia has five universities with RU status, namely Universiti Malaya (UM), Universiti Sains Malaysia (USM), Universiti Kebangsaan Malaysia (UKM), Universiti Putra Malaysia (UPM) and Universiti Teknologi Malaysia (UTM).

RUs focus on conducting and publishing new research, generating new knowledge and producing PhD candidate in a broad range of disciplines (Rahman *et al.*, 2012). The Malaysian education system aims to increase the number of research universities by 2020. Besides intensifying the activities of research, development and commercialization, the objective of RU is also to increase the number of international students who pursue their education in Malaysian public universities (Maah & Muhamad, 2009). Universities are recognized as RU based on eight criteria determined by Assessment of Research University Committee. The criteria includes quantity and quality of researchers, the quantity and quality of research, quantity of postgraduate students, quality of postgraduate studies, innovation, professional services and awards, network and links, and support services.

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3.3 Population and Sample

This research included postgraduate international students (PIS) at Malaysian research universities as the study population for several reasons. First, the data released by MoHE (2013) showed a decline in PIS' enrolment at Malaysian public universities. For example, the enrolment of students from China decreased to 9% from 2009 to 2012. A crucial factor that contributes to this scenario is that the international students are still not fully satisfied with service delivery experience at Malaysian universities (Rajab, Abdul Rahman, & Shaari, 2011; Rasli, Shekarchizadeh, & Iqbal, 2012; Siang, 2012). Second, most international students who pursue their studies in Malaysian public universities are at postgraduate level. As Tham and Kam (2008) reported, only 5% of the first-degree programs at Malaysian public universities are offered to international students. This policy is set up to protect local needs and demands (Yee, Hazrin, & Moktar, 2013). Third, international students are customers, and they are treated as a crucial asset. They are considered as the 'small ambassadors' to their countries (Rajab, Abdul Rahman, & Shaari, 2011). Fourth, the postgraduate international students' market is able to generate profitable income for the particular university and improve the university's ranking. Finally, research into specific needs of the postgraduate international students towards service experience is extensively limited (Movondo, Tsarenko, & Gabbott, 2008; Shekarchizadeh, Rasli, & Hon-Tat, 2011). Therefore, measuring the PIS experience with higher education service delivery is important predominantly for attracting and retaining the tuition-based returns.

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The PIS in their second and later semesters at Malaysian research universities were participated in this research. These categories of students are believed to be better informed compared to the first-semester students. They also had experience with higher education services (Mavondo, Tsarenko, & Gabbott, 2008). Consequently, they could recommend the same university to the prospective students (Douglas, McClelland, & Davies, 2008). In this research, the data collection took place between December 2013 and January 2014. The PIS who had registered at the participating research universities from March 2013 (second semester 2012/2013) onwards were selected to participate in this research. These groups of PIS were in the second semester or higher when data collection was conducted. As MoHE (2013) reported, about 13626 PIS had registered from March 2013 onwards at five Malaysian research universities. The PIS came from various countries worldwide, such as Iran, Iraq, Yemen, Nigeria, Indonesia, and China.

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3.3.1 Determining the Required Sample Size

Determination of an accurate sample size is crucial to obtain the results that precisely reflect the target population. In this research, three rules of thumb were used to determine the required sample size utilizing the estimation method of sample size for Structural Equation Modeling (SEM), the Sample Size Calculator, and Krejcie and Morgan Table. The following list the rules that were used to determine the required target sample size.

i. Estimation of the required sample size for SEM technique

This research employed the SEM technique to test the causal relationships among variables. Adequate sample size plays an important role in SEM technique because it has a significant effect on the reliability of estimates,

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model fit and statistical power (Hair *et al.*, 2010; Kline, 2011; MacCallum, Browne, & Sugara, 1996; Shah & Goldstein, 2006). Several approaches can be used to determine sample size, including establishing minimum requirement (e.g., n>200), having a certain number sample size of observations per manifest variable (MV), having a certain number of observations per parameters estimated, and conducting power analysis (MacCallum, Browne, & Sugara, 1996; Shah & Goldstein, 2006). For instance, Hair *et al.* (2010) suggested minimum sample size for SEM depending on the model complexity and basic measurement model characteristics, as follows:

- Five or less latent constructs. When each latent construct has more than three items, minimum sample required is 100.
- Seven or less latent constructs. When each latent construct has more than three items, minimum sample required is 150.
- Seven or less latent constructs. When some latent constructs have less than three items (just identified model), minimum sample required is 300.
- More than seven latent constructs. When some latent constructs have less than three items (just identified model), minimum sample required is 500.

Although no specific sample size is recommended for SEM technique, SEM is performed under the assumption of large sample sizes (Kline, 2011). The problems with small sample size in SEM include convergence failures (the software such as AMOS cannot reach a satisfactory solution),

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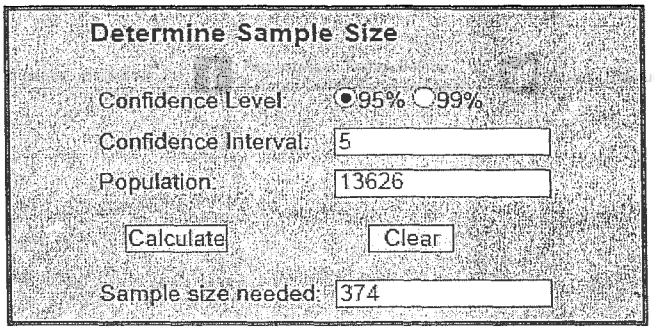
improper solutions (including negative error variance estimates for measured variables), and lowered accuracy of parameter estimates. MacCollum, Browne and Sugara (1996) postulated that the researcher should use as large a sample size as possible to enhance the likelihood of success in specification searches. Moreover, the sample should be large enough so that when it is divided into groups, each group will have a minimum sample size in performing SEM (Hair *et al.*, 2010). The reviewed of the literature on higher education services indicates that the required sample size for SEM ranges from 200 to 400 (Arambawela & Hall, 2011; Khademalomoum, 2012; Udo, Bagchi, & Kirs, 2011).

ii. Sample Size Calculator

The Sample Size Calculator is the survey system software that enables the researcher to determine the representative sample size (www.surveysystem.com/sscalc.htm). Before using the Sample Size Calculator, researcher needs to determine two important terms, namely confidence level and confidence interval. In this research, 95% of confidence level and 5% of confidence interval were selected. Generally, most researchers in social sciences use 95% of confidence level. The selected values of confidence level and confidence interval as well as the total population were entered into the text boxes, as shown in Figure 3.1. Then, the sample size needed was calculated. With aforementioned specifications, the sample size of 374 was required for the purpose of this research.

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Figure 3.1: Sample Size Calculator



iii. Krejcie and Morgan Table

Krejcie and Morgan (1970) developed a table to determine sample size from a given population. In this research, the researcher wanted to determine the minimum sample size needed that would be representative of 13626 postgraduate international students in Malaysian universities. As shown in Table 3.1, the researcher needs to find a value in Krejcie & Morgan Table for N=13626. As a result, the required sample size for this research was 375.

Table 3.1: Krejcie and Morgan Table

N	S
1200	291
1300	297
1400	302
1500	306
1600	310
1700	313
1800	317
1900	320
2000	322
2200	327
2400	331
2600	335
2800	338
3000	341
3500	346
4000	351
4500	354
5000	357
6000	361
7000	364
8000	367
9000	368
10000	370
15000	375
20000	377

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SEM is a powerful technique that requires a larger sample size. However, debates on how large a sample should be to reflect a representative of a given population are still ongoing. In this research, three rules of thumb were used to determine the target sample size. First, the required sample size was determined using the estimate method for SEM technique. The literature searched in service management indicates that the required sample size for SEM is between 200 and 400 (Arambawela & Hall, 2011; Chen, 2008; Durvasula, Lysonki, & Madhavi, 2011; Khademalomoum, 2012; Udo, Bagchi, & Kirs, 2011), although no exact formula exist to determine the exact sample size. Therefore, the Sample Size Calculator and Krejcie and Morgan (1970) Table were used to determine the required representative sample size for a given population. Based on these rules of thumbs, the required sample size for this research is 375 PIS at Malaysian research universities. The required sample size of 375 also lies between 200 and 400 range, as suggested by SEM technique.

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3.3.2 Sampling Technique and Procedures

Sampling is a process of selecting units of observations to gather useful information about a population (Babbie, 2010). The data were collected from samples and conclusions were drawn about population as a part of the inferential statistics process. Moreover, sampling offers several advantages, such as lower cost, greater accuracy of results, greater speed of data collection, and availability of population elements.

In this research, stratified random sampling technique was employed to select the sample elements. The crucial aspect of the probability sampling technique is that the selected sample elements must contain the same variations that exist in the

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population. This indicates that each of the elements chosen from the population has an equal chance of being selected. Thus, the researcher must initially understand the characteristics of the sampling frame in order to select a representative sample from the population. The sampling frame describes elements from which the sample is actually drawn and, that are closely related to the population (Cooper & Schindler, 2003).

In this research, the sampling frame was obtained officially from *Unit Pengurusan Data, Bahagian Perancangan Penyelidikan dan Penyelarasan Dasar, Malaysia Higher Education Sector,* comprising a list of PIS who enroll at five Malaysian research universities from March (second semester 2012/2013). Due to confidentiality of international students' information, only the list of email addresses and country of origin were released. The PIS came from almost 68 countries worldwide. After exploring the sampling frame, these various countries can be categorized into several stratums (strata) according to the world geographical regions. The list of countries by world geographical regions is based on the United Nations Country Grouping (http://www.internetworldstats.com/list1.htm#CA). The regions include Africa, Asia, Central America, Eastern Europe, European Union, Middle East, North America, Oceania, South America, and the Caribbean. It is important to ensure that internally, strata should be homogenous and externally, strata should differ. The sample demographics indicated that 99% of PIS at research universities came from three regions, namely Asia (26%), Middle East (58%), and Africa (15%), whereas only 1% of PIS came from others regions, such as Europe, European Union, Oceania and Northern America. Thus, the stratified sampling by

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three world geographical regions, namely Asia, Middle East, and Africa was employed to ensure that the selected elements include all the PIS in the population.

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Table 3.2 lists the countries by the world geographical regions. Most PIS (7959 students) came from Middle East region, followed by Asia (3660 students) and Africa (2007 students). Asia is the world's most populous continent. The PIS came from 28 countries in Asian region, including Afghanistan, Azerbaijan, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China, India, Indonesia, Japan, Kazakhstan, Korea (South), Laos, Maldives, Myanmar, Nepal, Pakistan, Philippines, Singapore, Sri Lanka, Taiwan, Tajikistan, Thailand, Timur Leste, Turkmenistan, Uzbekistan, and Vietnam. Middle East region covers most Western Asia. The sample of PIS covered 12 countries in Middle East region, namely Bahrain, Iraq, Iran (Islamic Republic of), Jordan, Kuwait, Oman, Palestine, Qatar, Saudi Arabia, Syria, United Arab Emirates, and Yemen. Africa is the world's second most populous continent. The sample of PIS covers 28 countries in African region, including Djibouti, Eritrea, Ethiopia, Kenya, Mauritius, Rwanda, Somalia, Tanzania (United Republic of), Uganda, Cameron, Chad, Algeria, Egypt, Libyan Arab Jamahiriya, Morocco, Sudan, Tunisia, Botswana, South Africa, Swaziland, Zambia, Gambia, Ghana, Guinea, Mauritania, Nigeria, Senegal, and Sierra Leone.

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Table 3.2: The List of Countries by World Geographical Regions

(Strata) Geographical regions	Countries	PIS
Asia	Afghanistan, Azerbaijan, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China, India, Indonesia, Japan, Kazakhstan, Korea (South), Laos, Maldives, Myanmar, Nepal, Pakistan, Philippines, Singapore, Sri Lanka, Taiwan, Tajikistan, Thailand, Timur Leste, Turkmenistan, Uzbekistan, Vietnam.	3660
Middle East	Bahrain, Iraq, Iran (Islamic Republic of), Jordan, Kuwait, Oman, Palestine, Qatar, Saudi Arabia, Syria, United Arab Emirates, Yemen.	7959
Africa	Djibouti, Eritrea, Ethiopia, Kenya, Mauritius, Rwanda, Somalia, Tanzania (United Republic of), Uganda, Cameron, Chad, Algeria, Egypt, Libyan Arab Jamahiriya, Morocco, Sudan, Tunisia, Botswana, South Africa, Swaziland, Zambia, Gambia, Ghana, Guinea, Mauritania, Nigeria, Senegal, Sierra Leone.	2007
TOTAL		**13626**

The following section discusses the stratified sampling procedures employed in this research.

i. Determine the target sample size

The target sample size for this research was initially set at 375. In this research, an online survey via emails was employed to gather the data. Nulty (2008) reviewed the related research on online surveys reveals, revealing that an average response rate for online surveys is 33%. Therefore, in order to achieve at least 33% of response rate, 1136 emails were send it from an email list of PIS at five research universities ($375/x=33\%$). The five research universities included Universiti Kebangsaan Malaysia (UKM), Universiti Malaya (UM), Universiti Putra Malaysia (UPM), Universiti Sains Malaysia (USM) and Universiti Teknologi Malaysia (UTM).

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ii. The proportionate stratified sampling

The proportionate stratified sampling was employed to determine the numerical distribution of the sample elements across various strata. To achieve this, the target sample size (n) was divided by the total target population (N). Hence, the proportion of each stratum was 8.34% ($1136/13626\times100$). Table 3.3 describes the proportionate stratified sampling of PIS at five research universities according to geographical regions stratums. The sampling fraction of 8.34% was applied to each stratum, giving every element in the population an equal chance of being selected. For instance, the target sample size for Asia stratum at UKM was 60 students ($721\times8.34\%$). Overall, the targeted number of samples at research universities according to regions was 305, 664 and 167, for Asia, Middle East and Africa, respectively.

Table 3.3: The Proportionate Stratified Sampling

Research University **Geographic Regions**	**UKM**	**UM**	**UPM**	**USM**	**UTM**	**Sample Required**
Asia	721*8.34% **=60**	1109*8.34% **=92**	394*8.34% **=33**	722*8.34% **=60**	714*8.34% **=60**	*305*
Middle East	1006*8.34% **=84**	1184*8.34% **=99**	2396*8.34% **=200**	1028*8.34% **=85**	2345*8.34% **=196**	*664*
Africa	278*8.34% **=23**	264*8.34% **=22**	628*8.34% **=52**	238*8.34% **=20**	599*8.34% **=50**	*167*
TOTAL	*167*	*213*	*285*	*166*	*305*	*1136*

iii. Random selection

Once the list of email addresses of PIS at each research university had been arranged by geographical regions, a random sample was selected using the Random Number Generator program (http://stattrek.com/statistics/random-number-generator.aspx). The Random

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Number Generator assists the researcher to create a list of random numbers based on the strata specifications. The random numbers generated by researcher will appear in the Random Number Table. In this research, the Random Number Generator program has generated a random number of target sample sizes within the range of 1 to the total number of PIS at a particular research university according to the geographical region stratum. For instance, the target sample size at UKM according to Asia stratum was 60 students. Therefore, the emails addresses of PIS were selected randomly from the list ranged from 1 and 721 (721 is the total of PIS came from Asia region at UKM). As shown in Figure 3.2, 60 number of target sample was entered in the first box (How many random numbers?). Next, the minimum value of 1 was entered in the second text box and the maximum value of 721 was entered in the third text box. No duplicate entries were allowed in the Random Number Table. Then, calculation was performed to create a table of random numbers. The 60 number was produced following the random specifications (see Table 3.4). As a result, an online questionnaire was sent randomly through selected PIS emails following the random number produced. The similar process was applied at each university to create a list of random numbers of PIS based on strata specifications. Table 3.4 presents the Random Number Table of selected PIS emails at research universities according to the geographical regions stratums.

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Figure 3.2: The Random Number Generator Program

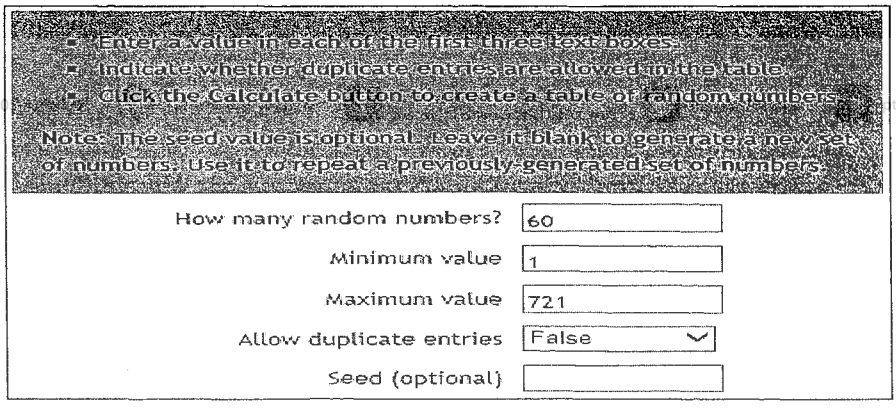


Table 3.4: The Random Number Table

Strata	Required sample size	Random Number
Universiti Kebangsaan Malaysia (UKM)		
Asia	60	65 345 214 088 277 418 184 179 005 527 189 494 665 151 608 136 653 709 353 191 156 073 323 282 592 182 517 597 544 703 038 239 532 552 680 106 035 436 650 197 471 024 656 512 235 358 365 343 411 206 111 209 623 091 080 300 350 388 274 615 *Specs: This table of 60 random numbers was produced according to the following specifications: Numbers were randomly selected from within the range of 1 to 721. Duplicate numbers were not allowed.*
Middle East	84	739 043 402 788 160 051 845 456 628 639 607 703 416 281 420 005 254 239 547 618 671 511 990 285 143 835 488 533 926 477 565 831 033 434 692 448 186 707 139 115 654 299 632 362 441 937 445 660 543 894 837 277 696 171 019 941 168 494 777 192 952 136 590 490 058 094 718 107 211 366 164 771 944 954 922 022 466 597 735 320 569 554 862 933 *Specs: This table of 84 random numbers was produced according to the following specifications: Numbers were randomly selected from within the range of 1 to 1006. Duplicate numbers were not allowed.*
Africa	23	044 031 271 095 079 198 040 169 200 179 240 257 063 175 182 232 011 256 138 220 046 152 252 *Specs: This table of 23 random numbers was produced according to the following specifications: Numbers were randomly selected from within the range of 1 to 278. Duplicate numbers were not allowed.*
Universiti Malaya (UM)		
Asia	92	0824 0222 0112 0737 0777 0364 0792 0907 1079 0855 0423 0615 0626 0591 0697 0085 0230 0383 1028 0199 0182 0525 0603 0662 0485 1016 0234 0076 0843 0458 0508 0945 0446 0544 0839 0765

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		0399 0685 0120 0123 0702 0883 0045 0643 1060 0619 0026 0407 0957 0411 0650 0520 0910 0553 1037 0690 0919 1044 0961 0104 0466 0780 0942 0973 0069 0572 0461 1087 0022 0713 0848 0151 0324 0100 0772 0671 0683 0647 0753 0435 0579 0733 1084 0548 0532 0874 0659 0718 0541 1072 0584 0132 *Specs: This table of 92 random numbers was produced according to the following specifications: Numbers were randomly selected from within the range of 1 to 1109. Duplicate numbers were not allowed.*
Middle East	99	0635 0376 0841 0623 0414 0728 0962 0573 0565 0276 0279 0894 1088 0196 0832 0100 0807 0175 0580 0854 0585 0527 0389 0804 0736 0075 0882 1125 0083 1171 0259 0643 0665 1150 0007 0221 0756 0326 0992 0171 0907 1050 0309 0493 0254 0970 0862 0874 0836 0949 0610 0452 0615 0125 0731 0402 0766 0849 0912 0723 0113 0769 0289 1105 1008 0749 0037 0995 0786 1100 0158 0945 0937 0648 0339 0954 0284 0568 0891 0472 0866 0548 0640 0050 0957 0899 0761 1176 1108 0447 0942 0321 0455 0367 0631 0703 1037 0347 0379 *Specs: This table of 99 random numbers was produced according to the following specifications: Numbers were randomly selected from within the range of 1 to 1184. Duplicate numbers were not allowed.*
Africa	22	167 223 192 024 200 054 232 026 056 036 094 179 253 032 039 086 204 178 066 075 238 009 *Specs: This table of 22 random numbers was produced according to the following specifications: Numbers were randomly selected from within the range of 1 to 264. Duplicate numbers were not allowed.*
Universiti Putra Malaysia (UPM)		
Asia	33	149 086 275 390 334 214 077 094 250 072 107 212 186 056 157 349 350 163 228 323 142 291 134 316 058 254 060 145 099 237 110 282 159 *Specs: This table of 33 random numbers was produced according to the following specifications: Numbers were randomly selected from within the range of 1 to 394. Duplicate numbers were not allowed.*
Middle East	200	1622 1504 1223 2067 1929 0583 2227 0327 0599 0419 0957 1741 1786 0378 0445 0880 1971 1095 0055 0778 2278 0173 1059 1433 0947 0010 2185 2211 2134 2364 1673 1350 1683 0685 1920 1248 1990 2160 2288 1904 0659 1997 1018 0285 0087 1955 0506 0061 2032 0276 0752 2355 2339 1750 1120 2374 1008 1587 2246 1392 2195 1546 1734 0532 2380 2262 1981 0429 0292 1341 2349 1085 1357 1178 1715 1862 0148 1136 1203 1638 2093 1853 0813 1536 0004 0931 1817 1555 1069 0132 0547 0573 0496 0727 0036 2109 0045 1443 2041 2006 0352 0522 0650 0266 1418 2118 1776 1043 0209 0317 1264 0183 0394 1034 1510 0081 0701 0112 1878 0736 1766 1709 0608 2150 0557 2304 0096 1290 0106 0624 0343 1187 1050 2099 0711 1843 1478 1299 1837 0224 0906 1894 1325 1760 0455 0215 1571 1658 0762 1689 1939 2313 1827

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		0890 1306 1331 1254 1485 0157 0471 0803 2201 0404 0368 1110 1280 1408 1024 2176 0480 0138 1801 0967 1075 2022 0941 1152 1792 1632 0839 1459 0234 0240 1494 1888 0071 1366 2272 1315 0029 0855 2048 0864 1382 1101 1945 1171 2221 1469 1965 *Specs: This table of 200 random numbers was produced according to the following specifications: Numbers were randomly selected from within the range of 1 to 2396. Duplicate numbers were not allowed.*
Africa	52	292 455 301 135 464 106 091 431 207 417 247 296 609 299 435 361 582 546 193 457 126 031 612 124 330 508 140 618 104 390 327 055 078 471 086 151 249 122 504 613 620 600 032 312 394 482 220 377 368 562 607 012 *Specs: This table of 52 random numbers was produced according to the following specifications: Numbers were randomly selected from within the range of 1 to 628. Duplicate numbers were not allowed.*
Universiti Sains Malaysia (USM)		
Asia	60	329 552 604 642 526 151 363 259 039 509 542 105 501 565 036 179 471 657 480 290 668 256 239 630 372 614 418 475 113 478 634 550 082 041 357 660 280 170 116 278 514 719 295 124 255 583 511 198 224 676 233 309 421 275 714 118 125 102 172 494 *Specs: This table of 60 random numbers was produced according to the following specifications: Numbers were randomly selected from within the range of 1 to 722. Duplicate numbers were not allowed.*
Middle East	85	0130 0492 0433 0882 0287 0773 0616 0540 0770 0079 0371 0795 0551 0737 0178 0075 0656 0693 0309 0707 0814 0974 0766 0364 0542 0553 0520 0619 0050 0184 0327 0926 0156 0141 0459 0531 0586 0422 0915 0189 0042 0755 0397 0444 0849 0386 0476 0751 0682 0342 0608 0083 0086 0623 0792 0013 0568 0956 0546 1022 0349 0860 0353 0575 0455 0817 0485 0935 0612 0825 0941 0865 0068 0404 0696 0847 0876 0035 0503 0400 0981 1018 0634 0759 0112 *Specs: This table of 85 random numbers was produced according to the following specifications: Numbers were randomly selected from within the range of 1 to 1028. Duplicate numbers were not allowed.*
Africa	20	163 196 033 156 152 226 180 192 154 031 164 066 057 212 159 015 209 167 231 040 *Specs: This table of 20 random numbers was produced according to the following specifications: Numbers were randomly selected from within the range of 1 to 238. Duplicate numbers were not allowed.*
Universiti Teknologi Malaysia (UTM)		
Asia	60	117 125 102 171 679 058 157 384 038 027 249 110 148 033 376 061 483 455 206 049 331 198 071 262 404 168 163 702 703 363 480 653 325 595 310 640 172 338 175 140 056 308 267 579 355 503 584 531 691 211 224 518 538 668 279 018 422 638 371 457

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		Specs: This table of 60 random numbers was produced according to the following specifications: Numbers were randomly selected from within the range of 1 to 714. Duplicate numbers were not allowed.
Middle East	196	0342 0909 2177 0718 2127 0868 1676 2221 1686 1570 1294 2121 1986 0668 2277 0418 0684 0508 1034 1801 1845 0468 0533 0959 2027 1169 0152 0859 2327 0267 1134 1501 1025 0108 2237 2262 2186 0067 1736 1419 1745 0768 1977 1319 2046 2212 2337 1961 0743 2052 1094 0377 0183 2011 0593 0158 2086 0367 0834 0057 0042 1811 1194 0076 1084 1651 2296 1460 2246 1610 1795 0618 0082 2312 2036 0518 0383 1410 0051 1160 1426 1250 1776 1920 0242 1210 1275 1701 2146 1911 0893 1601 0101 1009 1876 1620 1144 0227 0634 0659 0583 0809 0133 2161 0142 1510 2096 2061 0443 0608 0734 0358 1485 2171 1836 1119 0302 0408 1335 0277 0483 1109 1576 0177 0784 0208 1936 0818 1826 1770 0693 2202 0643 0007 0192 1360 0202 0709 0433 1260 1125 2152 0793 1901 1545 1369 1895 0317 0984 1952 1394 1820 0543 0308 1635 1720 0843 1751 1996 0017 1886 0969 1375 1400 1325 1551 0252 0558 0884 2252 0493 0458 1185 1350 1476 1100 2227 0568 0233 1861 1044 1150 2077 1019 1225 1851 1695 0919 1526 0327 0333 1560 1945 0167 1435 2321 *Specs: This table of 196 random numbers was produced according to the following specifications: Numbers were randomly selected from within the range of 1 to 2345. Duplicate numbers were not allowed.*
Africa	50	035 502 139 028 521 082 201 003 598 450 293 007 265 410 574 361 562 399 447 146 009 578 508 120 086 348 001 284 352 307 442 478 050 297 314 422 536 476 216 397 014 246 467 402 280 046 150 156 137 195 *Specs: This table of 50 random numbers was produced according to the following specifications: Numbers were randomly selected from within the range of 1 to 599. Duplicate numbers were not allowed.*

3.4 Instrumentation

In this research, the self-administered questionnaires that were completed online were used as the survey instruments. Recently, the rapid growth of the internet has provided new ways to collect the research information worldwide. An online survey has been recognized as an essential research tool due to its advantages, such as faster response and cost saving (Han & Kim, 2010; Kaplowitz, Hadlock, & Levine, 2004). In this research, an online questionnaire was created using a Google Form (Drive). A Google Form is a useful tool for administering a survey or collecting other

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information online. All questions were set as 'Response Required', requiring responses and reducing the number of incomplete survey questionnaires. A Google Form was connected to Google Spreadsheet that recorded the respondents' responses.

The online survey questionnaire can be accessed by clicking the following URL address:

https://docs.google.com/forms/d/1iq4TFoQBj17-po0MtCgXd9WXh4ZFp9Thyp1Wj3MKTiw/viewform

Appendix A includes a hard copy of the online questionnaire. The questionnaire consisted of six sections. Section I, II and III contained the statements regarding the PIS' cognitive evaluation, including Service Personal Values, Service Value, and Service Quality towards the service experience at the present university. Section IV contained the statements regarding the emotional satisfaction among PIS towards service experience at the present university. Section V contained the statements regarding the PIS' favorable behavioral intentions based on their experiences with services at the present university. The final section (section VI) contained 10 questions assessing respondent's demographic profile and other information, such as gender, age, marital status, and nationality. This section also included an open-ended question assessing the PIS' experience with the service delivery at the present university. The PIS have been asked to express their suggestions, opinions or comments on the service they have experienced at the present university.

In this research, latent variables including SPV, SV, SQ, E-SAC and FBI, were measured based on the adapted scales with appropriate modifications relevant to higher education setting. Additionally, the psychometric scores from the past use of

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scales also supported the validity of the selected scales. According to Creswell (2009), the validity and reliability scores reported in the previous studies assisted the researcher to:

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i. identify whether an instrument might appropriate for survey research,
ii. look for whether authors report measures of internal consistency, and
iii. determine whether there was consistency in test administration and scoring.

In this research, latent variables were categorized into two types, unidimensional and multidimensional. Unidimensional scale measures only one attribute of the object, whereas multidimensional scale measures an attribute space of *n* dimensions (Cooper & Schindler, 2003). Both scales are widely used in social sciences research and applications. A seven-point Likert scale was used as a response method to measure the latent variables. The Likert scale is the most frequently used variation of summated rating. Summated scales consist of statements that express and assess the respondent's characteristics especially attitudes (Brandon-Jones & Silvestro, 2010). The Likert scale allows the researcher to compare one respondent's score with a distribution of scores from a well-defined sample group. The following discusses the operationalization of the latent variables involved in this research.

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- Service Personal Values (SPV)

  The concept of personal values has been explored in wide range of social disciplines. Several quantitative scales have been developed to measure personal values, such as Rokeach Value System (RVS) (Rokeach, 1973), Values of Lifestyles (VALS) (Mitchell, 1983), and List of Values (LOV) (Kahle, 1983). However, the concept of personal values has been rarely investigated and operationalized in the service context (Lages & Fernandes,

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2005; Linh & Thuy, 2011). This research adopted the SERPVAL scale by Lages and Fernandes (2005) to measure service personal values. SERPVAL is a multidimensional scale developed to measure customers' cognitive evaluation of their service experience based on their individual values. SERPVAL was operationalized using three broad groups of individual dimensions, namely service values to peaceful life (SVPL), service values to social recognition (SVSR), and service values to social integration (SVSI). In this research, twelve adapted SERPVAL items were used to assess experience with the higher education service based on the personal values that PIS wish to achieve in their lives.

SVPL dimension consisted of the combination of values based on Rokeach Value System (RVS) (Rokeach, 1973). SVPL dimension consisted of four items (statements) assessing the general individual values that PIS experience in higher education service. The items assessing the general individual values measured the achievement of greater tranquility, family security, harmony and stability in life, and pleasurable life (example SVPL items such as 'The educational service I receive from my present university allows me to achieve more tranquility'). The dimensions of SVSR and SVSI were measured based on the List of Values (LOV) (Kahle, 1983) and Rokeach Value System (RVS) (Rokeach, 1973). SVSR consisted of five items assessing the extent to which the higher education assists the PIS in gaining respect from others, social recognition and status, and potentially the degree to which it demonstrates to others a more fulfilling and stimulating life (example of SVSR items such as 'The educational service I receive from my present

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university allows me to achieve more respect from others'). Social recognition allows an individual to avoid social disapproval. These outcomes provide a higher level of social integration for an individual (Lages & Fernandes, 2005). For SVSI dimension, the PIS were asked to rate three statements assessing the extent to which the higher education assists them to achieve a higher integration with established groups as well as better and stronger relationships (sample of SVSI item is 'The educational service I receive from my present university allows me to achieve a higher integration in my group').

The SERPVAL scale was measured on a 7-point Likert scale ranging from (1) Strongly Disagree…to (7) Strongly Agree. Appendix A (see Appendix A: Section I) listing the adapted items of Service Personal Values. Although SERPVAL scale has been rarely used in higher education, the psychometrics properties of SERPVAL have been tested in other service context. For instance, Lages and Fernandes (2005) and Linh and Thuy (2011) validated the SERPVAL scale in telecommunication and banking services, reporting a good fit of the model to the data (TLI & CFI > 0.9 and $\chi^2 / df < 5$).

- Service Value (SV)

  Service Value has been conceptualized as a cognitive trade-off between the relevant benefits (gets) and sacrifices (gives) (Cronin *et al.,* 1997; Zeithaml, 1988). In 1988, Zeithaml developed four unique indicators to operationalize the value of the product and service usage. The indicators include i) value is low price, ii) value is whatever customer wants in a service, iii) value is the

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quality customer gets from the price customer pays, and iv) value is what customer gets for what customer gives. However, this operationalization of SV has been criticized because the direct monetary cost indicates only what customers sacrificed to consume the service. In the service context, sacrifice can be defined as a broader concept, which also includes non-monetary costs, such as time, effort and risk assumption associated with service consumption (Choi *et al.*, 2004; Cronin *et al.*, 1997; Cronin, Brady, & Hult, 2000; Lai & Chen, 2011; Lovelock, 2001; Tam, 2004). Therefore, this research, operationalized SV as a cognitive trade-off between the benefit customers obtain from service, which usually refers to quality, and the sacrifices associated with obtaining a service, such as price, time and efforts.

Four adapted items were used to assess the SV (Cronin *et al.*, 1997; Zeithaml, 1988). These items were modified to utilize wording appropriate for higher education context. The items include i) 'This university's services are reasonably priced'; ii) 'This university offers whatever I want in service'; iii) 'The quality of service I received from this university is worth more than what I paid for'; and iv) 'The service I received from this university is worth the time and effort I have invested'. The SV scale was measured on a 7-point Likert scale ranging from (1) Strongly Disagree…to (7) Strongly Agree. Appendix A (Section II) presents the items of service value. The researchers in service context (Choi *et al*, 2004; Kuo, Wu, & Deng, 2009) have proven the reliability of SV scale. For instance, the research conducted by Kuo, Wu and Deng (2009) used three adapted items from Zeithaml (1988) scale to

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evaluate the value of using mobile value-added services. The composite reliability of the scale was 0.97.

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- Service Quality (SQ)

  Service Quality has been gaining increased attention among researchers since 30 years ago. However, the measurement issue of SQ is controversial (Babakus & Boller, 1992; Buttle, 1996; Robinson, 1999). Several established scales, such as SERVQUAL (Parasuraman *et al.*, 1985, 1988, 1991), SERVPERF (Cronin & Taylor, 1992) and Gronroos model (Gronroos, 1984) have been used extensively to measure the quality attributes in multi-services setting. However, these scales could not be replicated in the context of higher education. The higher education involves the unique service delivery activities, such as teaching and research (Abdullah, 2006; Sultan & Wong, 2010). Consequently, the attributes of aforementioned scales may not be adequate to assess the service quality in higher education.

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This research adopted HedPERF (higher education performance) scale developed by Abdullah (2005; 2006). HedPERF is a multi-dimensional scale specifically developed to capture the attributes of quality within the higher education service delivery. HedPERF measures the quality of service delivery process in higher education from the students' perspective. Forty-one items extracted from original HedPERF scale were used to measure different aspects of higher education service offering. These items were categorized into five dimensions, namely academic aspects, reputation, program issues, non-academic aspects, and access. No modification required as the items

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were generated and validated within the higher education context. The HedPERF's items measure five dimensions described as follows:

i. *Academic aspects*. This dimension consists of nine items. The PIS were asked to rate their level of agreement with responsibilities of academicians in delivering the services (e.g., 'Academic staff have the knowledge to answer my questions related to the course content').

ii. *Reputation*. This dimension consists of 10 items. The PIS were asked to rate their level of agreement with responsibility of higher education institutions to project a professional image (e.g., 'The university has a professional appearance/image').

iii. *Program issues*. This dimension consists of two items. The PIS were asked to rate their level of agreement with the importance of university in offering wide range and reputable academic programs (e.g., 'The university offers a wide range of programs with various specializations').

iv. *Non-academic aspects*. This dimension consists of 12 items. The PIS were asked to rate their level of agreement with obligations and the duties that carried out by non-academic staffs (e.g., 'When I have a problem, administrative staff shows a sincere interest in solving it).

v. *Access*. This dimension consists of eight items. The PIS were asked to rate their level of agreement with accessibility in higher education services, including approachability, ease of contact, availability and convenience (e.g., 'Students are treated equally and with respect by the staff').

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The measurement items of HedPERF scale were described entirely in positively worded statements and measured on 7-point Likert scale ranging from (1) Strongly Disagree…to (7) Strongly Agree. Appendix A (Section III) presents the items of the SQ. The HedPERF scale has been empirically tested for unidimensionality, reliability and validity using both exploratory and confirmatory factor analysis (CFA) (Abdullah, 2006). For instance, Kayatha (2011) and Ho and Foon (2012) tested the reliability (Cronbach's alpha) of HedPERF dimensions, which ranged from 0.70 to 0.92.

- Emotional Satisfaction (E-SAC)

  To date, very few emotional scales have been specifically developed to measure customers' emotional attitude towards the service experience. This research adapted the positive emotional scales developed by Liljander and Strandvik (1997), West-brook and Oliver (1991), Reynolds and Beatty (1999). The previous studies stressed that an evaluation of customer experience is based on the positive and negative emotions. In this research, the emotional satisfaction was conceptualized as the customer positive feeling (pleasurable emotional stated) towards the experience provided by higher education services. A research conducted by Bagozzi (1999) has shown that positive emotions are the best predictor of customers' decision to stay or continue with the service. In addition, the education providers should avoid the negative items, as these are unlikely to be voluntarily provided by students (Yu & Dean, 2001). The adapted emotional satisfaction items include happy, hopeful, positive surprised, pleasant, contented and enjoyable.

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The PIS were asked to evaluate their emotions with the experience provided by higher education services (example of items such as 'The service experience at my present university makes me feel happy'). The E-SAC was measured on a 7-point Likert scale ranging from (1) Strongly Disagree…to (7) Strongly Agree. The Appendix A (Section IV) presents the adapted E-SAC scale. The 'positive-emotions' scale was proven in previous study in service context conducted by Wong (2004) (retail shopping; reliability result: 0.86) and Yu and Dean (Higher Education; reliability result: 0.77).

- Favorable Behavioral Intentions (FBI)

  The concept of FBI has gained enormous attention due to its ability to remain the customers with a company (Berry & Carbone, 2007; Bodet, 2008; Flint, Blocker & Boutin, 2011; Mascarenhas, Kesavan, & Bernacchi, 2006; Sweeney, Soutar, & Mazzarol, 2012). The past literature has mostly operationalized the FBI as a unidimensional scale. For example, Cronin and Taylor (1992), using a single item of purchase intention scale, indicated that service quality drives satisfaction and leads to behavioral intentions. Zeithaml, Berry and Parasuraman (1996) suggested that the FBI is associated with a service provider's ability to please customers by i) saying positive things about them, ii) recommending them to other customers, iii) remaining loyal to them, iv) spending more with company, and v) paying price premiums.

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In this research, four adapted items from Zeithaml, Berry and Parasuraman (1996) were used to assess the PIS' willingness to behave favorably because of service experience. The wording of these items was modified for higher education context. The items included, i) 'I will say positive things about service provided in my present university', ii) 'I will recommend my present university to someone else', iii) 'I will stay with my present university if the fees increase' and, iv) 'I will remain loyal with my present university'. The FBI items were measured on 7-point Likert scale ranging from (1) Strongly Disagree…to (7) Strongly Agree. Appendix A (Section V) presents the items of FBI. The past literature has reported the psychometric properties for the favorable behavior items in service marketing and management (Baker & Crompton, 2000; Cronin, Brady, & Hult, 2000; Choi *et al.*, 2004; Yavas, Benkenstein, & Stuhldreier, 2004). For instance, Cronin, Brady and Hult (2000) adapted three items from Zeithaml, Berry and Parasuraman (1996) to measure customers' FBI in six service industries, including entertainment, sports (spectator and participation), health care, long distance carriers and fast food. The scale had the construct reliability of 0.87 and an Average Variance Extracted (AVE) of 68%.

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Table 3.5 summarizes the questionnaire scales and measurement employed in this research.

Table 3.5: The Questionnaire Scales and Measurement

Sections	Latent Variables	Scales adapted	Operationalization	
			Sub-Constructs	Items
I	Service Personal Values (SPV)	SERPVAL (Lages & Fernandes, 2005)	Service values to peaceful of life (SVPL)	4
			Service values to social recognition (SVSR)	5
			Service values to social Integration (SVSI)	3
II	Service Value (SV)	Zeithaml (1988); Cronin *et al.* (1997)	Nil	4
III	Service Quality (SQ)	HedPERF (Abdullah 2005, 2006)	Academic Aspects (SQA)	9
			Reputation (SQR)	10
			Program issue (SQPI)	2
			Non-academic aspects (SQNA)	12
			Access (SQACC)	8
IV	Emotional Satisfaction (E-SAC)	Positive emotion-based. (Liljander & Strandvik, 1997; West-brook & Oliver, 1991; Reynolds & Beatty, 1999)	Nil	6
V	Favorable Behavioral Intentions (FBI)	Zeithaml, Berry, & Parasuraman (1996)	Nil	4

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3.5 Pre-test and Pilot the Questionnaire

Pre-testing is a process to identify and eliminate the potential problems in the questionnaire, including the question content, wording, form, layout and instruction. Pre-testing the questionnaire is not numerical, but subjective and judgmental (Babbie, 2010; Cooper & Schindler, 2003). The draft questionnaire was submitted to experts, including academicians and practitioners to review its structure, readability, ambiguity and completeness. The changes were then made accordingly. Then, the revised questionnaire was administered for a pilot test. The aim of the pilot test is to ensure the reliability of the initial scales before they are administered to a full sample (Babbie, 2010). A total of 300 PIS at Malaysian research universities were selected

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randomly from an email list to participate in the pilot test. The online questionnaires were sent via emails. A total of 100 completed questionnaires were received and proceeded to conduct pilot data analysis.

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All scales that were used to measure the latent constructs in this research were derived from the instrument that has been proven reliable and valid. Therefore, the primary goal of the pilot test was to re-examine the reliability of these scales in the scale purification process. The Cronbach's alpha was assessed to determine the internal consistency of each scale. A commonly used threshold for the reliability acceptance is 0.70 (Nunnally, 1978). In addition, reliability analysis can be further assessed whether the items measure the same construct by inspecting the item-to-total correlations (Zikmund, 1994). An investigation of the reliability of individual items was carried out by comparing item alpha scores to overall alpha score for the scale. In this research, item-to-total correlations were performed to measure the contribution of each item to the overall reliability of each scale dimension by assessing alpha if each item were deleted. If an item-to-total correlation is negative or too low (less than 0.30), it is wise to examine the item for wording problems and conceptual fit (Leech, Barrett, & Morgan, 2008). The researcher would then modify or delete such items. Next, the researcher can check whether the value of alpha has increased after deleting a particular item.

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In this research, Service Personal Values (SPV) and Service Quality (SQ) were operationalized as the multidimensional constructs. Table 3.6 shows the result of reliability analysis for SERPVAL scale measuring SPV. SERPVAL scale consists of three dimensions, namely Service Values to Peaceful of Life (SVPL), Service Values

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to Social Recognition (SVSR) and Service Values to Social Integration (SVSI). As shown in Table 3.6, SVPL dimension had an alpha of 0.867. This coefficient value is above the threshold for acceptable reliability of 0.70. An analysis of the individual items of SVPL dimension shows that item-to-total correlation ranged from 0.606 to 0.826. One item (SPV3) had the low correlation coefficient of 0.606. However, this item was retained in the final instrument, since its deletion would only marginally increase the dimensional alpha. The SVSR dimension received an alpha of 0.815. An examination of individual items of SVSR showed that the coefficients of item-to-total correlations ranged from 0.495 to 0.787. The removal of one item (SPV6) would increase the dimensional alpha to 0.825. The dimension of SVSI had an alpha of 0.829, which is above the adequate reliability threshold of 0.70. In addition, the analysis of individual items also revealed that the coefficients of item-to-total correlations ranged from 0.582 to 0.805. The removal of one item (SPV10) would increase the dimensional alpha to 0.845. However, the incremental increase of alpha is less important because items SPV6 and SPV10 are essential for this research. Therefore, these items were retained to provide a better test of SERPVAL scale (Lages & Fernandes, 2005).

In summary, the 12 items of the three dimensional SERPVAL scale developed by Lages and Fernandes (2005) revealed good internal consistency across all dimensions, with an overall coefficient alpha of 0.904. This proved that SERPVAL scale could reliably measure the service personal values in higher education context.

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Table 3.6 Reliability Analysis of SERPVAL Scale

Service Personal Values (SPV)		**Overall scale coefficient alpha: 0.904**	
Dimensions: Items (observed variables)	Item-to-Total Correlations	Cronbach's Alpha if Item Deleted	Dimension Alpha
Service Values to Peaceful of Life (SVPL)			0.867
SPV1: The educational service I receive from my present university allows me to achieve *more tranquility.*	.826	.789	
SPV2: The educational service I receive from my present university allows me to achieve *more family security.*	.772	.810	
SPV3: The educational service I receive from my present university allows me to achieve *more harmony and stability in life.*	.606	.862	
SPV4: The educational service I receive from my present university allows me to achieve a *more pleasurable life.*	.689	.842	
Service Values to Social Recognition (SVSR)			0.815
SPV5: The educational service I receive from my present university allows me to achieve *more respect from others.*	.591	.783	
SPV6: The educational service I receive from my present university allows me to achieve *the feeling that the world is more agreeable.*	.495	.825	
SPV7: The educational service I receive from my present university allows me to achieve *more social recognition.*	.787	.729	
SPV8: The educational service I receive from my present university allows me to achieve *more status.*	.680	.755	
SPV9: The educational service I receive from my present university allows me to achieve *more stimulating and adventurous life.*	.603	.779	
Service Values to Social Recognition (SVSI)			0.829
SPV10: The educational service I receive from my present university allows me to achieve *a higher integration in my group.*	.582	.845	
SPV11: The educational service I receive from my present university allows me to achieve *better relationships.*	.805	.643	
SPV12: The educational service I receive from my present university allows me to achieve *stronger relationships.*	.693	.761	

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Table 3.7 shows the reliability results for HedPERF scale that measures Service Quality (SQ) in higher education context. HedPERF consists of five dimensions namely, Academic Aspects (SQA), Reputation (SQR), Program Issues (SQPI), Non-Academic Aspects (SQNA), and Access (SQACC). The following discusses the results of reliability analysis of HedPERF dimensions.

- SQA dimension has achieved a satisfactory reliability, with alpha of 0.831. This coefficient value is above the suggested reliability threshold of 0.70. The analysis of individual items revealed the item-to-total correlations coefficients ranging from 0.355 to 0.766. Two items, namely SQ3 and SQ7 revealed low item-to-total correlations, with correlation coefficients of 0.360 and 0.355, respectively. Nevertheless, these items were retained in the final

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instrument, since their deletion would only marginally increase the dimensional construct.

- The SQR dimension had an alpha of 0.928, which is greater than the suggested 0.70 threshold. An analysis of the individual items showed moderate to strong correlations ranging from 0.508 to 0.913, with six items having correlation coefficients above 0.70. Two items (SQ11 and SQ14) had moderate correlation coefficients. However, their deletion would only marginally increase the dimensional alpha.
- The SQPI dimension had an alpha of 0.876. An examination of individual items revealed that the coefficient values of item-to-total correlations were above 0.70.
- The SQNA dimension scored above the suggested reliability threshold, with an alpha of 0.921. Item-to-total correlation coefficients varied from 0.393 to 0.807, with two items (SQ22 and SQ33) again receiving low scores. However, their deletion would not increase the overall dimensional alpha. Thus, this information provides further confirmation that these items are important and should be retained in the final survey instrument.
- The service quality of SQACC dimension had a coefficient alpha of 0.841. Item-to-total correlations ranged from 0.435 to 0.689. Consequently, all items were retained in the final instrument for further analysis.

In summary, the 41 items of the five dimensional HedPERF scale developed by Abdullah (2005, 2006) showed good internal consistency across all dimensions, with overall coefficient alpha of 0.968. This provides evidence that HedPERF scale reliably measures the service quality in higher education context.

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Table 3.7 Reliability Analysis of HedPERF Scale

Service Quality (SQ)		**Overall scale coefficient alpha: 0.968**	
Dimensions: Items (observed variables)	Item-to-Total Correlations	Cronbach's Alpha if Item Deleted	Dimension Alpha
Academic Aspects (SQA)			0.831
SQ1: Academic staff has the knowledge to answer my questions relating to the course content.	.606	.806	
SQ2: Academic staff deals with me in a caring and courteous manner.	.766	.793	
SQ3: Academic staff is never too busy to respond to my request for assistance.	.360	.833	
SQ4: When I have a problem, academic staff shows a sincere interest in solving it.	.421	.831	
SQ5: Academic staff show positive attitude towards students.	.634	.805	
SQ6: Academic staff communicates well in the classroom.	.711	.796	
SQ7: Academic staff provides feedback about my progress.	.355	.839	
SQ8: Academic staff allocates sufficient and convenient time for consultation.	.564	.811	
SQ9: Academic staff is highly educated and experience in their respective field.	.577	.810	
Reputation (SQR)			0.928
SQ10: The university has a professional appearance/image.	.913	.911	
SQ11: The hostel facilities and equipment are adequate and necessary.	.508	.931	
SQ12: Academic facilities are adequate and necessary.	.746	.920	
SQ13: The university runs excellent quality programs.	.821	.916	
SQ14: Recreational facilities are adequate and necessary.	.563	.930	
SQ15: Class sizes are kept to minimum to allow personal attention.	.754	.919	
SQ16: The university has an ideal location with excellent campus layout and appearance.	.795	.917	
SQ17: The university offers highly reputable programs.	.813	.916	
SQ18: The university's graduates are easily employable.	.682	.923	
SQ19: Health services are adequate and necessary.	.647	.921	
Programs Issues (SQPI)			0.876
SQ20: The university offers a wide range of programs with various specializations.	.793	-	
SQ21: The university offers programs with flexible syllabus and structure.	.793	-	
Non Academic Aspects (SQNA)			0.921
SQ22: When I have a problem, administrative staff shows a sincere interest in solving it.	.466	.922	
SQ23: Administrative staff provides caring and individual attention.	.725	.912	
SQ24: Inquiries/complaints are dealt with efficiently and promptly.	.634	.916	
SQ25: Administrative staff is never too busy to respond to a request for assistance.	.765	.910	
SQ26: Administration offices keep accurate and retrievable records.	.778	.910	
SQ27: When the staff promises to do something by a certain time, they do so.	.780	.909	
SQ28: The opening hours of administrative offices are personally convenient for me.	.807	.908	
SQ29: Administrative staff show positive work attitude towards students.	.762	.910	
SQ30: Administrative staff communicates well with students.	.714	.913	
SQ31: Administrative staff has good knowledge of the systems/procedures.	.635	.916	

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SQ32: I feel secure and confident in my dealings with this university.	.625	.916	
SQ33: The university provides services within reasonable/expected period.	.393	.926	
Access (SQACC)			0.841
SQ34: Students are treated equally and with respect by the staff.	.473	.835	
SQ35: Students are given fair amount of freedom.	.495	.833	
SQ36: The staff respects my confidentiality when I disclosed information to them.	.668	.811	
SQ37: The staff ensures that they are easily contacted by telephone.	.654	.811	
SQ38: The university operates excellent counseling services.	.547	.826	
SQ39: The university encourages and promotes the setting up of student's union.	.655	.811	
SQ40: The university values feedback from students to improve service performance.	.435	.838	
SQ41: The university has a standardized and simple service delivery procedure.	.689	.806	

In this research, three constructs, namely Service Value (SV), Emotional Satisfaction (E-SAC) and Favorable Behavioral Intentions (FBI), were operationalized as the unidimensional (single factor) scales. Table 3.8 shows the results of the reliability analysis, which revealed an alpha of 0.811 for the SV scale. This result is well above the suggested threshold of 0.70. An analysis of individual items showed that the results of item-to-total correlations ranged from 0.362 to 0.707. Although, the item SV1 had low correlation coefficient of 0.362, removing it would not increase the reliability of the scale. As a result, all items were retained in the final instrument, as proposed by Zeithmal (1988) and Cronin *et al.* (1997).

Table 3.8 Reliability Analysis of Service Value (SV) Scale

Scale: Individual Items	Item-to-Total Correlations	Cronbach's Alpha if Item Deleted	Scale Alpha
Service Value (SV)			0.811
SV1: This university's services are reasonably priced.	.362	.705	
SV2: This university offers whatever I want in the service.	.511	.641	
SV3: The quality of service I received from this university is worth than what I paid for.	.613	.570	
SV4: The service I received from this university is worth the time and effort I have invested.	.707	.552	

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Table 3.9 presents the results of the reliability for E-SAC scale. As presented in Table 3.9, the E-SAC scale had reliability of 0.924, well above the threshold of 0.70. An examination of the individual items showed that item-to-total correlations had high coefficient values ranging from 0.713 to 0.869. Consequently, all items were retained in the final instrument, as proposed by Liljander and Strandvik (1997), West-brook and Oliver (1991), and Reynolds and Beatty (1999).

Table 3.9 Reliability Analysis of Emotional Satisfaction (E-SAC) Scale

Scale: Individual Items	Item-to-Total Correlations	Cronbach's Alpha if Item Deleted	Scale Alpha
Emotional Satisfaction (E-SAC)			0.924
ESac1: The service experience at my present university makes me feel *happy.*	.834	.903	
ESac2: The service experience at my present university makes me feel *hopeful.*	.789	.911	
ESac3: The service experience at my present university makes me feel *positive surprised.*	.731	.917	
ESac4: The service experience at my present university makes me feel *pleasant.*	.713	.919	
ESac5: The service experience at my present university makes me feel *contented.*	.869	.898	
ESac6: The service experience at my present university makes me feel *enjoyably.*	.781	.912	

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Table 3.10 shows the results of the reliability of FBI scale. As shown in Table 3.10, the scale had an alpha of 0.826, which is greater than 0.70. Item-to-total correlations ranged from 0.503 to 0.792. The removal of one item (FBI3) would increase the dimensional alpha to 0.834. However, this item was retained in the final instrument because it was consistent with the original FBI scale as conceptualized by Zeithaml, Berry and Parasuraman (1996).

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Table 3.10 Reliability Analysis of Favorable Behavioral Intentions (FBI) Scale

Scale: Individual Items	Item-to-Total Correlations	Cronbach's Alpha if Item Deleted	Scale Alpha
Favorable Behavioral Intentions (FBI)			0.826
FBI1: I will say positive things about service provided in my present university.	.604	.709	
FBI2: I will recommend my present university to someone else.	.792	.601	
FBI3: I will stay with my present university if the fees increase.	.503	.834	
FBI4: I will remain loyal my present university.	.608	.716	

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3.6 Data Collection Procedures

This research utilized an online survey to collect the data. Overall, 1136 emails of PIS at research universities were randomly selected from the email list following the stratification characteristics (see Table 3.4 in section 3.3.2). An invitation letter was sent randomly through the selected emails. It contained a short introduction to the research, a request to participate and the hyperlink to the online questionnaire. The PIS who agreed to participate in this survey were asked to click on a URL address that led them to an online survey.

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The transactional emails were managed using Microsoft Outlook 2007. Microsoft Outlook is a powerful communication tool that is able to send and receive emails across the Internet. The major functions of Outlook are its ability to record delivered and undelivered status as well as the emails that have been read by the recipient.

The data collection took place from the second week of December 2013 until end of January 2014. After 6 days of sending out the emails, 112 completed questionnaires were received. This yielded the response rate of 9.8%. As Ilieve, Baron and Healey (2002) reported, the average online survey response time is 5.59 days, which is

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substantially faster compared to the 12.21 days in mail survey. However, the greatest challenges of online surveys are to enhance the response rate and improve the quality of data. Previous research has suggested that these challenges could be overcome through follow-ups, incentives, and the length and presentation of the questionnaire (Dillman, 2000; Yammarino, Skinner, & Childers, 1991). Yet, the follow-up contact has been reported as the most powerful technique for increasing response rate in online surveys. The literature has suggested that follow-ups could be conducted earlier in an online survey setting rather than mail setting, for instance after one week (Deutskens *et al.*, 2004; Dillman, 2000). However, sending out multiple follow-ups in online survey should be conducted with a great care. According to Solomon (2001), repeated follow-ups have diminishing returns, and they may be considered a spam.

The follow-up was sent one week after the majority of PIS have responded to the initial emails. The PIS received the first reminder during the third week of December 2013. The first reminder focused on the strata which still do not achieve the required sample size. About 335 of completed questionnaires were received in the first week of January 2014. The response rate increased to 29.50%. However, the responses still did not achieve the required target sample size. Therefore, the second reminder was sent in the second week of January 2014. The second reminder was sent to the strata that still did not achieve the required sample size. In the last week of January 2014, about 381 completed questionnaires were received. This yielded the response rate of 33.54%.

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3.7 Data Analysis

The structural equation modeling (SEM) using AMOS was performed to empirically test the developed hypotheses (Byrne, 2010; Hair *et al.*, 2010; Kline, 2011). The Confirmatory Factor Analysis (CFA), multiple regressions and path analysis were performed to complement the SEM analysis. In addition, the Exploratory Data Analysis (EDA) was examined initially before performing the SEM analysis. EDA involves examining the problem with data, such as missing values, non-normal distribution, outliers and multicollinearity.

3.8 Structural Equation Modeling (SEM) Diagnostic Procedures

The Structural Equation Modeling (SEM) is a second generation of statistical analysis techniques. It has developed to determine the interrelationships among multiple variables in a model. SEM is usually viewed as a powerful statistical technique for testing and estimating the causal relations through one of the three following approaches:

i. *Strictly confirmatory approach.* A model is tested using SEM goodness-of-fit tests to determine whether the pattern of variances and co-variances in the data is consistent with structural or path models specified by the researcher.

ii. *Alternative models approach.* Two or more causal models may be tested to determine the model that has the best fit. Many goodness-of-fit measures reflecting different considerations, and usually researchers report three or four.

iii. *Model development approach.* In practice, much SEM research combines confirmatory and exploratory approaches. A model is usually tested using SEM procedures, and if it is found deficient, and an alternative model is then

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tested based on changes suggested by SEM modification indexes. This is the most common approach found in the literature.

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The general SEM is represented by three matrix equations as shown in Figure 3.3 (Joreskog & Sorbom, 1993). However, in applied work structural equation models are often represented graphically as shown in Figure 3.4.

$$\eta_{(m\,x\,1)} = B_{(m\,x\,m)} * \eta_{(m\,x\,1)} + \Gamma_{(m\,x\,n)} * \xi_{(n\,x\,1)} + \zeta_{(m\,x\,1)}$$

$$y_{(p\,x\,1)} = \Lambda_{y(p\,x\,m)} * \eta_{(m\,x\,1)} + \varepsilon_{(p\,x\,1)}$$

$$X_{(q\,x\,1)} = \Lambda_{X(q\,x\,n)} * \xi_{(n\,x\,1)} + \delta_{(q\,x\,1)}$$

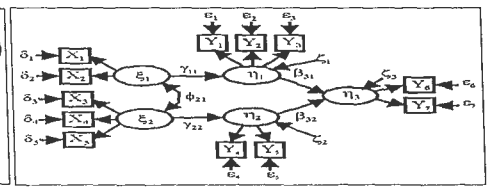


Figure 3.3: SEM-Matrix Equations

Figure 3.4: Graphical of SEM
(Source: Joreskog & Sorbom, 1993)

The specific objective of this research is to test multiple interdependent relationships among the latent variables (latent constructs) of the postgraduate international students' experience with higher education service delivery. SEM is able to test these relationships simultaneously in a single model and incorporate both observed and latent variables. The latent variable is the variable that cannot be observed and measured directly. In the SEM procedure, variables with variance that can be explained by other variables are called dependent or endogenous. Variables that do not depend on other variables in the model are called independent or exogenous.

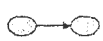
This research applied the model development approach consisting of two main parts of data analysis, namely measurement model and structural model. The measurement model demonstrates the relationships between response items (observed variables) and their underlying latent variables. On the other hand, the structural model demonstrates the correlational and causal dependencies among the measurement model based on the hypothesized interrelationships among them (Zainudin, 2012). It

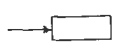
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is crucial to note that SEM should never be attempted without strong theoretical basis for specification of both measurement and structural model (Hair *et al.,* 2010). The fundamental role of theory in SEM is to specify the relationships among the latent variables, particularly when using cross-sectional data, and to develop a model strategy (Hair *et al*, 2010; Kline, 2011). The theoretical relationships are modeled into a conceptual framework represented by a schematic diagram. A schematic diagram assists the researcher to visualize the direction of the hypothesized relationships and comprehend the operationalization of each latent variable (Lin, 2003). Figure 3.5 illustrates the schematic diagram of the conceptual research framework using AMOS 18.0.

The conceptual research framework was schematically portrayed using particular configurations of four geometric symbols. The geometric symbols are a circle (or ellipse), a square (or rectangle), a single-headed arrow ($\rightarrow$), and double-headed arrow ($\leftrightarrow$). The circles (or ellipses) represent unobserved latent variables, squares (or rectangles) represent observed variables, single-headed arrows represent the effect of one variable on another variable, and double-headed arrows represent covariance or correlation between pairs of variables (Byrne, 2010). These four geometric symbols are described as follows:

i.  Path coefficient for regression of an observed variable onto unobserved latent variable.

ii.  Path coefficient for regression of one variable onto another variable.

iii.  Measurement error associated with an observed variable.

iv.  Residual error in the prediction of unobserved variable.

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As illustrated in Figure 3.5, five unobserved latent constructs are involved in this research namely, Service Personal Values (SPV), Service Value (SV), Service Quality (SQ), Emotional Satisfaction (E-SAC) and Favorable Behavioral Intentions (FBI). SPV, SV and SQ are exogenous latent variables; E-SAC is a mediator; and FBI is an endogenous latent variable. Each of the latent variables is measured using a set of items (observed variables) derived from the literature. Figure 3.5 also illustrates the items and their respective underlying latent variables. In this research, SPV is treated as a second-order factor measured with 12 items; SQ is treated as a second-order factor measured with 41 items; SV is treated as a first- order factor measured with 4 items; E-SAC is treated as first-order factor measured with 6 items; and FBI is treated as a first-order factor measured with 4 items.

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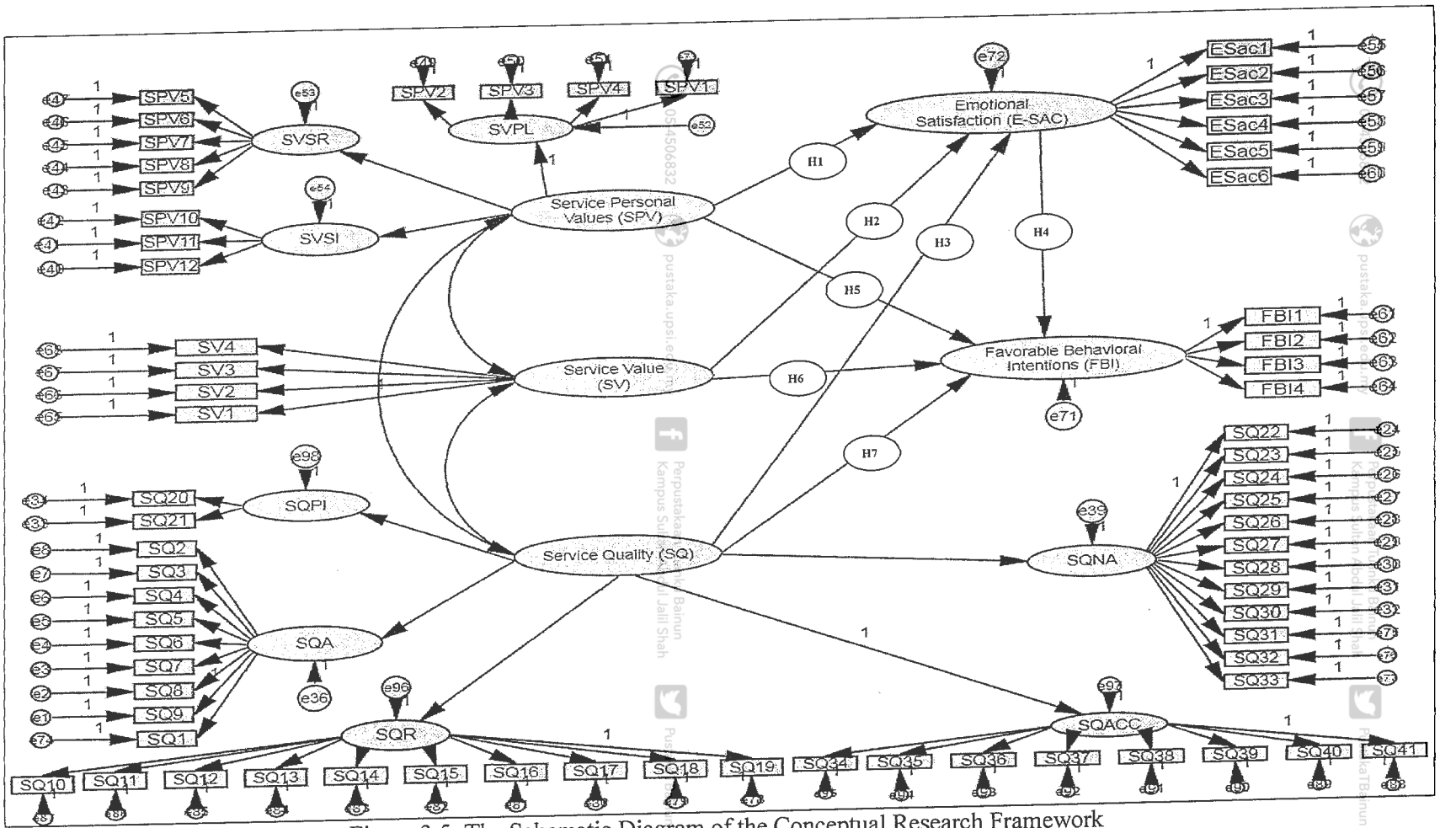


Figure 3.5: The Schematic Diagram of the Conceptual Research Framework

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3.8.1 The Measurement Model Analysis Procedure

SEM is a confirmatory technique that assesses whether the items measure their underlying latent construct using Confirmatory Factor Analysis (CFA). CFA has an ability to assess the unidimesionality, validity and reliability of a measurement model (latent construct). It is crucial to examine the unidimesionality, validity and reliability of the measurement model involved before modeling the interrelationship in the structural model. According to Zainudin (2012), the researcher could perform the CFA for every measurement model individually or simultaneously. In this research, the CFA for second-order model was performed individually. Then, CFA for all measurement models were performed simultaneously through pooled measurement model (Zainudin, 2012). The pooled measurement method is able to address the issue of the model that has less than four items (identification issue).

According to Byrne (2010), the estimation process plays a crucial role in assessing the CFA measurement model. The following are the steps involved in estimation process:

i. Item-deletion process for low factor loading.

   With CFA, any items that do not fit the measurement model due to low factor loadings should be removed. In this research, all latent constructs were measured using the established scales. Thus, the cut point of factor loading for an item should be greater than 0.60 or higher (Zainudin, 2012).

ii. Examination of goodness-of-fit statistics (fitness-indices).

   In SEM, a series of goodness-of-fit indices reflect the fit of the model to the sample data. However, the researchers do not agree about what which

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fitness indices should be reported. Hair *et al.* (2010) and Holmes-Smith (2006) recommended using at least three categories of fit indices by including at least one index from each category of model fit. The three fitness categories are absolute fit, incremental fit, and parsimony fit. The information about the fitness category, name of index and level of acceptance is presented in Table 3.11. The absolute fit indices provide the most basic measurement of how well a theory fits the sample data (Kenny & McCoach, 2003). The indices include in this group are chi-square fit index (χ^2) and Root Mean Square Error of Approximation (RMSEA). Another group of indices, called the incremental fit indices assess how well the estimated model fits some alternative baseline model (Hair *et al.*, 2010). Included in this group are Comparative Fit Indices (CFI) and Tucker-Lewis Index (TLI). A third set of indices known as parsimony fit indices such as Chi Square/Degree of Freedom (χ^2/df) provide information about which model among a set of competing models is best, considering its fit relative to its complexity (Hair *et al.*, 2010).

iii. Detecting model misspecification issue

Model misspecification issue refers to inadequate fit between sample and the restricted variance and covariance matrices (Byrne, 2010). Model misspecification is a logical step to identify the source of misfit in the model. AMOS yielded two types of information in detecting model misspecification through modification indices (MI) and standardized residuals (Byrne, 2010).

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The MI produced by Amos output indicate that the redundant items exists in the model. MI value for a pair of correlated errors that is greater than 15 indicate that redundant items exists in the model (Zainudin, 2012). The redundant items have caused the measurement model to have a poor fit. Two choices in dealing with redundant items in the model. First, one of the two redundant items is deleted and the new measurement items are specified. Second, two correlated measurement errors of redundant items have to be set as 'free parameters' and the new measurement model has to be respecified.

The residual covariance is the difference between the sample covariance and model-implied covariance. The model is correctly specified if most standardized residual covariances are less than 2.58 in absolute value (Byrne, 2010). The standardized residual estimates offer options to be deleted the 'poor item' from the construct in the model.

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Table 3.11: Categories of Fit Indices

Name of category	Name of Index	Description	Level of acceptance
1. Absolute fit	Chisq (χ^2)	The most fundamental absolute fit index is the χ^2 statistic. The χ^2 test, otherwise known as the discrepancy function, is used to assess the statistical probability that the observed covariance and estimated covariance matrices are equal. It is based on the traditional p-value and the implicit null hypothesis of equal observed and estimated matrices. The claim of the null hypothesis means that in SEM, researchers are looking for a relatively small χ^2 value and a p-value that will lead to a failure of rejection (Hair *et al.*, 2010). A major issue with the χ^2 statistics is that it is a function of sample size and also sensitive to model complexity in the form of number indicators or measured variables. However, in SEM, it is often the case of large samples and large numbers of indicators are desirable for result stability, but under such model conditions, the χ^2 test rejects virtually all models (Anderson & Gerbing, 1988; Hair *et al.*, 2010).	P > 0.05
	RMSEA	This fit index is one of most popular measures of fit that was introduced as an attempt to correct the tendency of the χ^2 value to reject models. It is less affected by sample size and model complexity and because it has a known distribution a confidence interval can be constructed for a given level of confidence (Dilalla, 2008; Hair *et al.*, 2010; Hoyle, 2000). There is no unanimity regarding to the best cutoff value for RMSEA, but lower values indicate a better fit. Generally, values < 0.08 are considered to indicate adequate model fit confidence (Dilalla, 2008; Hair *et al.*, 2010; Hoyle, 2000).	RMSEA < 0.08
2. Incremental fit	CFI	The CFI is an incremental fit index, which is an improved version of the Normed Fit Index (Hu & Bentler, 1999). The CFI is normed so that values range between 0 and 1, with higher values indication better fit. It is among the most widely used indexes due to its insensitivity to model complexity (Hair *et al.*, 2010). CFI values above 0.90 are usually associated with a model that fits well.	CFI > 0.90
	TLI	The TLI is a comparison of the normed chi-square values for the null and specified model, which to some degree takes into account model complexity (Hair *et al.*, 2010).	TLI > 0.90
3. Parsimonious fit	Chisq/df (χ^2/df)	Relative chi-square is the chi-square fit index divided by degrees of freedom is an attempt to reduce the sensitivity on sample size. Different researchers have recommended using ratio as low as 2 or as high as 5 to indicate a reasonable fit (Marsh & Hocevar, 1985).	χ^2/df < 5.0

The assessments of unidimensionality, validity and reliability are performed simultaneously through pooled measurement model method. The following discusses the procedure of unidimensionality, validity and reliability.

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i. Unidimensionality

Unidimesionality can be achieved when the measuring items have acceptable factor loadings for on respective latent variable. To ensure the unidimensionality of a measurement model, any item with low factor loading should be deleted. According to Zainudin (2012), for newly developed scales, the factor loading of an item should be 0.50 or higher. On the other hand, for already established scales, the factor loading of an item should be 0.60 or higher. One item should be deleted at a time, with the lowest item being deleted first. After deleting an item, the researcher need to re-specify and run the new measurement model needed.

ii. Validity

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Validity is the extent to which a measure or a set of measures correctly represents the concept of study (Hair *et al.,* 2010). Three types of validity are required for each measurement model, as follows:

a. Convergent validity

Convergent validity refers to the items that measure a particular construct, which should have a high percentage of shared common variance (Hair *et al.,* 2010). The convergent validity is achieved when all items in a measurement model are statistically significant. The convergent validity could also be verified through Average Variance Extracted (AVE). The value of AVE should be 0.5 or higher in order to achieve convergent validity (Fornell & Larcker, 1981).

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b. Construct validity

Construct validity refers to the extent to which measured variables are able to truly capture the construct they are designed to measure (Hair *et al.*, 2010). This validity is achieved when the Fitness Indices achieve the required level, specifically, CFI > 0.90, TLI > 0.90, RMSEA < 0.08, and the ratio of χ^2 / df less than 5.0

c. Discriminant validity

Discriminant validity is the extent to which indicators or measured variables have a higher association with their respective constructs than they had with other construct in a given model (Hair *et al.*, 2010). This validity is achieved when the measurement model is free from redundant items. AMOS will identify the pair of redundant items in the model in terms of high Modification Indices (MI). The researcher could delete one of the items and run the model. The researcher could also set the correlated pair as "free parameter estimate". Another requirement for discriminant validity is the correlation between exogenous constructs should be less than 0.90 (Hair *et al.*, 2010).

iii. Reliability

Reliability refers to the reliability of the measurement model to measure the intended latent construct. The following discusses the reliability assessment of the measurement model:

a. Internal reliability. This reliability is achieved when the Cronbach's Alpha value is 0.7 or higher (Nunnally, 1978).

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b. Construct Reliability (CR). CR refers to the internal consistency of a latent variable. A value of CR greater than 0.60 is required to achieve the reliability of a construct (Bagozzi & Yi, 1988; Hair *et al.*, 2010). (CR was calculated using the given formula in Table 3.12).

c. Average Variance Extracted (AVE). The average percentage of variation explained by items that measure a construct should be greater than 0.50 (Fornell & Larcker, 1981; Hair *et al.*, 2010). (AVE was calculated using the formula in Table 3.12)

Table 3.12: Formula to Calculate AVE and CR

$AVE = \sum K^2 / n$	K = factor loading of every item n = number of items in a model
$CR = \left(\sum K\right)^2 / \left[\left(\sum K\right)^2 + \left(\sum 1 - K^2\right)\right]$	

3.8.2 The Structural Model Analysis Procedure

The structural analysis was performed after reaching the required fit of CFA measurement model. The structural model deals with the relationship among the latent variables (Byrne, 2010). It specifies the manner in which particular latent variables directly or indirectly influence changes in the values of certain other latent variables in the model. As illustrated in Figure 3.5, seven direct paths connect two latent variables that linked theoretically by a hypothesis. The following lists the direct hypothesis involved in this research.

H1: SPV has a significant effect on E-SAC

H2: SV has a significant effect on E-SAC

H3: SQ has a significant effect on E-SAC

H4: E-SAC has a significant effect on FBI

H5: SPV has a significant effect on FBI

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H6: SV has a significant effect on FBI

H7: SQ has a significant effect on FBI

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Two steps are involved in analyzing the structural model. First, the structural model fit was assessed to ensure that the model fits the data well. Second, the structural relationships were examined to assess whether the hypotheses are consistent with theoretical expectation (Hair *et al.*, 2010). The following discusses the steps involve in structural model analysis.

i. Assessing the overall structural model fit

The overall structural model fit is assessed following the CFA measurement model fit procedure. As stated by Hair *et al.* (2010), the fit statistics for the saturated structural model should be the same as those obtained for the CFA measurement model. The required level of the fitness indices are as follows, CFI > 0.90, TLI > 0.90, RMSEA < 0.08, and the ratio of χ^2 / df < 5.0.

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ii. Examining hypothesized dependence relationships

The statistically significant and meaningful hypotheses were examined through the individual structural parameter estimates (Hair *et al.,* 2010; Zainudin, 2012). AMOS produces two outputs of structural parameter estimates, namely unstandardized and standardized. Table 3.13 describes the structural parameter estimates produced by AMOS. Unstandardized parameter estimates refer to variables in their original metrics (scales) rather than expressed in Z-scores. The values of unstandardized estimates are not all limited to the same range. They cannot be directly compared across variables of different scales. On the other hand, standardization

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parameter estimates refer to a variable that has been transformed to a mean value of zero and a standard deviation (SD) value of 1. The most common way to standardize a variable X is to convert its raw score to Z-score (Kline, 2011). A Z-Score is a statistical measurement of a score's relationship to the mean in a group of scores. Z-score of 0 means the score is the same as the mean. The positive and negative Z-scores indicate that the estimated value is above and below the mean by some number of standard deviation.

Table 3.13: The Structural Parameter Estimates

Statistical technique	Structural Parameter Estimates
Covariance (cov). The strength of the association between two variables (X and Y) and their abilities. Covariance conveys more information as a single number statistic than a correlation. It is not limited to a standardized range -1 to +1. Two roles of covariance in SEM: First, to understand patterns of correlations among a set of variables. Second, to explain as much their variance as possible with the model specified by the researcher.	Unstandardized estimates
Correlation (r_{xy}). Correlation refers to a continuous variable at interval-level measurement. It indicates the association between two variables. Generally correlation is measured using the Pearson Correlation (range only from -1: prefect negative relation to +1: prefect positive relation). If r_{xy} is zero, then X and Y are unrelated.	Standardized estimates
Error/Residual. The differences between actual and a predicted scores.	Unstandardized estimates
Multiple Regressions. Unstandardized regression coefficients (B) indicate the expected raw score increase in Y given an increase of one point in predictor while controlling for the other variable. $\hat{Y} = B_1(X_1) + B_2(X_2) + A$ Because unstandardized regression coefficients reflect the scales of their respective predictors, the values of from B predictors with different raw score metrics are not directly comparable. *(Testing of statistical significant).*	Unstandardized estimates
Multiple Regressions. The standardized regression coefficients (beta weights, β) indicate expected increase in Y in SD unit while controlling for the other predictors. For standardized variables, the regression equation for generating Z score on Y: $\hat{Z}_y = \beta_1(z_1) + \beta_2(z_2)$ Because the SD are all 1.0, the values of β can be directly compared across predictors.	Standardized estimates
Squared Multiple Correlation (R^2). Indicate the contribution of exogenous variable in estimating endogenous variable (coefficient of determination).	Standardized estimates.

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3.9 The Mediation Analysis Procedure

Mediation is a causal model that explains the process of 'why' and 'how' a cause-and-effect happens (Baron & Kenny, 1986: Wu & Zumbo, 2007). In a simple meditation model, the exogenous variable is presumed to cause the mediator variable, and in turn, the mediator variable is expected to causes the endogenous variable. Besides the mediator variable, the researchers also named it an as *surrogate variable, intermediate variable* and *intervening variable* (Mackinnon *et al.*, 2002). As illustrated in Figure 3.5, three indirect (mediation) hypotheses were tested. The hypotheses are as follows:

H8: ESAC mediates the relationship between SPV and FBI

H9: ESAC mediates the relationship between SV and FBI

H10: ESAC mediates the relationship between SQ and FBI

Figure 3.6 illustrates modeling of the mediator variable M in AMOS graphic. The following discusses the mediation analysis procedure (path analysis).

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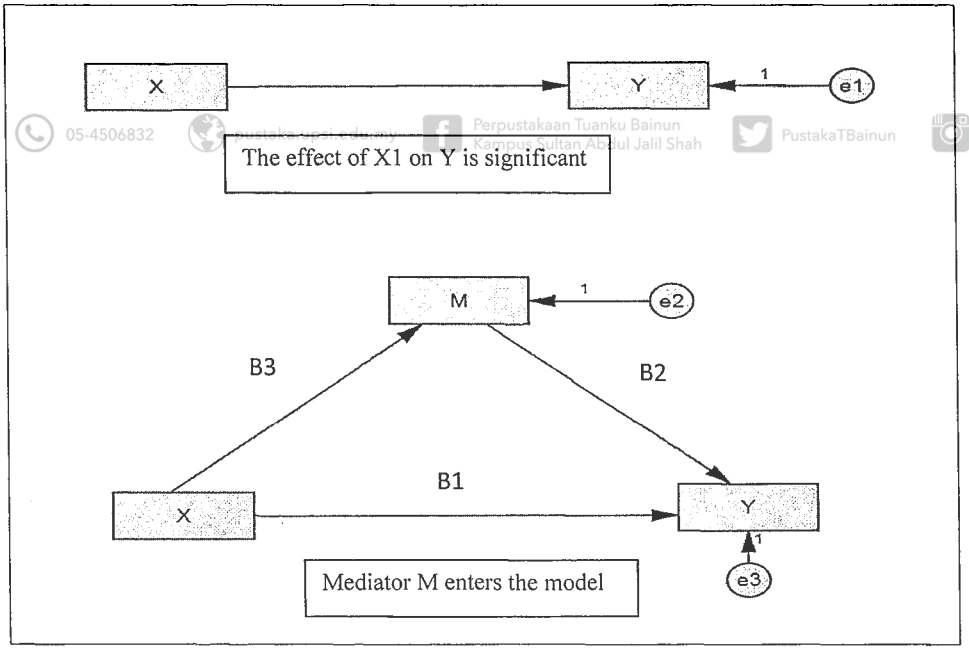


Figure 3.6: Modeling the Mediating Variable in AMOS Graphic
(Source: Zainudin, 2012, p: 28).

The mediation analysis begins with evidence that the direct effect of X on Y is significant. The direct effect measured by beta coefficient (B1) is expected to be significant. When the mediator variable (M) enters the model, the value of beta coefficient for X is expected to decline. The following steps used to test the mediation after mediator variable enters the model.

i. Calculate the indirect effect (B2*B3)

ii. Determine the direct effect (B1)

iii. Both indirect path (X to M and M to Y) are significant

iv. Since indirect effect > direct effect, the mediation occurs

v. There are two types of mediation. First, complete mediation occur when the direct effect is not significant after mediator enters the model. Second, partial mediation occurs when the direct effect is still significant after mediator enters the model.

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Next, it is crucial to determine the effects sizes in mediation model. The effect size is the amount of variance explained in the mediation model contributed by every single path (Zainudin, 2012). The range values of r^2 and their relative effect sizes based on definition by Cohen (1988) are given in Table 3.14.

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Table 3.14: The Benchmark Range of Effect Sizes

Range of R^2	*The effect size*
Below 0.13	Small Range
Between 0.13-0.26	Medium Range
Above 0.26	Large Range

Specifically, two effect sizes are as follows:

i. The r^2 measures the effect size of individual paths in the model (3 paths). The following are steps were used to measure the effect size of individual paths in the model (see Figure 3.6)

   - r^2XM represents the squared partial correlation between X (exogenous) and M (mediator) variables in the model.
   - r^2XY denotes the squared partial correlation between X and Y (endogenous) variables in the model.
   - $r^2MY.X$ corresponds to the squared partial correlation between M and Y variables with the influence of X removed.

ii. The R^2 measures the size of mediated effect of mediator (M). This value is computed using the following formula:

   $r^2MY-(r^2XMY-r^2XY)$

   Where,

   r^2XY is the R^2 for the model containing X and Y only

   r^2MY is the R^2 for the model containing M and Y only

   r^2XMY is the R^2 for the model containing all X, M and Y

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$$= r^2MY - (r^2XMY - r^2XY)$$

3.10 Software for Quantitative Data Analysis

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In this research, IBM@SPSS@AMOS (18.0) with graphical user interface was utilized to analyze the data. AMOS is an acronym for 'Analysis of Moment Structures' or the analysis of mean and covariance structures. AMOS enables researcher to specify, estimate, assess and present models to examine hypothesized relationship among variables (Arbuckle, 2007). The software assists the researcher with building more accuracy models compared to the standard multivariate statistics techniques.

3.11 Chapter Summary

This chapter discusses the quantitative analytical approach used to examine the relationships among SPV, SV, SQ, E-SAC and FBI. The research design and the specific aspects of research methodology are intensively discussed in this chapter. This research was carried out at Malaysian Research Universities, including UM, UPM, UKM, UTM and USM. The postgraduate international students (PIS) were selected as the sample elements. The probability stratified sampling technique was employed to randomly select the sample elements among PIS at Malaysian Research Universities. In this research, the self-administered online were used as the survey instruments. The investigated variables, including SPV, SV, SQ, E-SAC and FBI were measured based on the adapted scales with an appropriate modification relevant to higher education setting.

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In this research, pilot test was conducted to ensure that the reliability of the initial scales is achieved before conducting study with entire sample. A total of 100 PIS participated in the pilot study. The Cronbach's alpha was calculated to determine the reliability of the scales. The results revealed that the coefficient alphas for SPV, SV, E-SAC and FBI are 0.904, 0.811, 0.968, 0.924 and 0.826, respectively. This indicates that the latent variables have achieved the internal consistency, as all coefficient alphas were greater than the recommend threshold of 0.70. An online questionnaire was used to gather the data regarding the postgraduate international students' experience with higher education service delivery. The data gathered were analyzed using the Structural Equation Modeling (SEM) technique in order to examine the relationships among SPV, SV, SQ, E-SAC and FBI. SEM is a powerful statistical technique that consists of various statistical methods including the Confirmatory Factor Analysis (CFA), correlations and multiple regressions.

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CHAPTER 4

ANALYSIS AND PRESENTATION OF FINDINGS

This chapter presents the research findings in the form of quantitative data derived from the online survey. The specific research objective is to test the direct and indirect relationships among the variables measuring customer experience in higher education service delivery, namely Service Personal Values (SPV), Service Value (SV), Service Quality (SQ), Emotional Satisfaction (E-SAC) and Favorable Behavior Intentions (FBI). The results of statistical analysis were based on the data from 381 completed online questionnaires received from the postgraduate international students (PIS) at five Malaysian research universities. This chapter is divided into four statistical analyses sections. First, Exploratory Data Analysis (EDA) was performed to screen the data problems, such as missing values, non-normal distribution, outliers and multicollinearity. Second, descriptive statistics was performed to describe the sample characteristics. Third, the Confirmatory Factor Analysis (CFA) measurement model for second-order factor model was performed individually. Then, the CFA were performed simultaneously performed for all latent variables through the pooled measurement model, and finally the proposed hypotheses were examined through the structural model.

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4.1 Exploratory Data Analysis (EDA)

EDA is the preliminary data analysis aimed at assessing potential problems with the data before running any inferential statistics. In this research, the data gathered was analyzed using the Structural Equation Modeling (SEM) procedures, requires clean and complete data (Carter. 2006). EDA involves examining the problems, such as missing values, non-normal distribution, outliers and multicollinearity (Byrne, 2010; Leech, Barrett, & Morgan, 2008). The data collected was entered into SPSS@IBM@19.0 package. In this research, the missing values and multicollinearity were examined using SPSS. The multivariate normality and outliers were assessed using AMOS 18.0.

4.1.1 Missing Values

Missing values is a common problem in statistical analysis. According to Hair *et al.* (2010), when more than 10% of the data is missing, it can be a serious problem, particularly if the pattern is not missing completely at random (MCAR). The output produced by SPSS (Appendix B) shows that the dataset comprises 77 variables and 381 cases with complete data with no missing values (0%). Thus, the data did not exhibit any major issue with missing values.

4.1.2 Assessment of Multivariate Normality

In this research, the developed theoretical research model developed tested using Maximum Likelihood (ML) estimation in AMOS 18.0. ML has to meet two conditions. First, the data should be normally distributed. Second, the scale of the observed variables should be continuous (Byrne, 2010; Hair *et al.*, 2010). Normality of the data becomes critically important for conducting SEM analyses using AMOS

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(Arbuckle, 2007; Byrne, 2010). Therefore, before analyzing the data, it is crucial to ensure that this criterion has been fulfilled. The skewness and kurtosis are additional assumption of SEM. The cutoff points of skewness and kurtosis are between ±2 range and < 7 , respectively (Byrne, 2010). As reported in AMOS output, all skewness and kurtosis values fell within the normally distribution range (Appendix C). Since the variables are continuous and the data is normally distributed, ML estimations were used to analyze the measurement model and structural model.

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4.1.3 Checking for Outliers

AMOS determines the outliers in the dataset by computing the Mahalanobis Distance (d-squared). The Mahalanobis Distance measures the distances in standard deviation units between a set of scores for one case and the sample mean (centroid). The centroid is the centre of data distribution. The outliers' case has a d-squared value that stands distinctively apart from all other d-squared values (Byrne, 2010). Checking the level of significance for p1 and p2 (p1 or p2 less than 0.05) or d-squared /degree of freedom (df) value more than 2.5 in the small samples (n<100), and 3 or 4 in large samples can be considering for possible outliers (Byrne, 2010; Hair *et al.*, 2010). The results of d-squared measures are shown in 'checking the outliers' table in Appendix D. The values in the d-squared/df column are smaller than 3 or 4 (for large sample). Therefore, the dataset did not require elimination for analysis.

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4.1.4 Test for Multicollinearity

Multicollinearity refers to the situation a high inter-correlation between independent (exogenous) variables (Hair *et al.,* 2010). To assess multicollinearity, the researcher needs to measure the degree to which the set of other independent variables explains each independent variable. The most common assessment of multicollinearity are tolerance and its inverse, the variance inflation factor (VIF).

A direct measure of multicollinearity is tolerance, which is defined as the amount of variability of the selected independent variable that is not explained by the others independent variables (Hair *et al.*, 2010). Generally, tolerance values below 0.20 are considered potentially problematic. A second measure of multicollinearity is the VIF. The VIF is calculated simply as the inverse of the tolerance value (Hair *et al.*, 2010). The values above 5.00 are considered potentially problematic. Table 4.1 presents the results of collinearity among exogenous variables, namely SPV, SV, SQ and E-SAC. As presented in Table 4.1, each independent variable becomes a dependent variable that is regressed against the remaining independent variables. All tolerance values were above 0.20 and VIF values are less than 5.00. Therefore, multicollinearity did not appear to pose a threat to the validity of the results.

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Table 4.1: Assessing Multicollinearity

Model		Unstandardized Coefficients		Standardized Coefficient	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			*Tolerance*	*VIF*
1	(Constant)	18.556	2.255		8.231	.000		
	SV	.370	.109	.166	3.405	.001	.505	1.981
	SQ	.112	.017	.378	6.491	.000	.354	2.824
	ESAC	.438	.088	.274	4.976	.000	.397	2.520
Coefficients[a] Dependent Variable: SPV								
1	(Constant)	-1.179	1.141		-1.033	.302		
	SQ	.052	.008	.394	6.504	.000	.354	2.822
	ESAC	.153	.042	.213	3.672	.000	.386	2.592
	SPV	.081	.024	.180	3.405	.001	.467	2.140
Coefficients[a] Dependent Variable: SV								
1	(Constant)	49.116	6.480		7.579	.000		
	ESAC	2.282	.229	.422	9.945	.000	.470	2.127
	SPV	.901	.139	.266	6.491	.000	.504	1.984
	SV	1.934	.297	.256	6.504	.000	.545	1.836
Coefficients[a] Dependent Variable: SQ								
1	(Constant)	-1.910	1.386		-1.378	.169		
	SPV	.141	.028	.225	4.976	.000	.483	2.070
	SV	.226	.062	.162	3.672	.000	.507	1.972
	SQ	.091	.009	.493	9.945	.000	.402	2.487
Coefficients[a] Dependent Variable: ESAC								

4.2 Respondents' Profile

Table 4.2 presents the descriptive statistics of the sample. As shown in Table 4.2, the results by respondents' gender were surprising. Although there is a concern issue about lacks of male students in education landscape (Archambault, 2008), 57.5% of the PIS who participated in this survey were male and the 42.5% female. Concerning age, 76.1% of PIS who participated in survey were 31 years old and older. The results of descriptive analysis also indicated that 58% of PIS were married and 48% were single. It is important to note that this study focuses on the postgraduate students who are significantly more likely to be over than 30 years and married.

This survey involved PIS who came from 68 countries worldwide such as Iran, Iraq, Yemen, Nigeria, Indonesia and China. For the purpose of representative the population, the countries were divided into three world geographical regions namely, Asia, Middle East and Africa. As reported in Table 4.2, 57.2% of PIS who

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participated in this survey came from Middle Eastern region, followed by Asia (27%) and Africa (15.7%). Students, especially Middle East students chose Malaysia for tertiary education due to affordable tuition fee and lower cost living, as well as economic and political stability besides the diversity of local cultures and customs (MoHE, 2011). Furthermore, the numbers of PIS from Middle East countries who pursue their education in Malaysia increased after the September 11 terrorist attacks (Rasli, Shekarchizadeh, & Iqbal, 2012).

In this research, the data was gathered from five Malaysian research universities include UM, UPM, UKM, USM and UTM. As reported in Table 4.2, 26.2% of PIS are currently studying at the UTM, followed by UPM (25.5%), UM (19.2%), UKM (15.5%) and USM (13.6%). Of these respondents, 209 of PIS are currently pursuing PhD degrees, while 172 are pursuing at Master's degrees. This survey focuses on the PIS who are currently in their second and later semester. Specifically, 22.8% of PIS were in their fourth semester, followed by third semester (22.3%), fifth semester (21.3%), sixth semester (12.6%), second semester (11.5%), and further than sixth semester (9.4%).

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Table 4.2: Descriptive Statistics of Sample Characteristics (N=381)

Demographics	Frequency	Percentage (%)
Gender		
Male	219	57.5
Female	162	42.5
Age		
20-25 years	21	5.5
26-30 years	70	18.4
31-35 years	159	41.7
>36 years	131	34.4
Marital status		
Single	160	42
Married	221	58
Geographical region		
Asia	103	27
Middle East	218	57.2
Africa	60	15.8
Present University		
Universiti Malaya (UM)	73	19.2
Universiti Sains Malaysia (USM)	52	13.6
Universiti Kebangsaan Malaysia (UKM)	59	15.5
Universiti Putra Malaysia (UPM)	97	25.5
Universiti Teknologi Malaysia (UTM)	100	26.2
Education level		
Master	172	45.1
Doctoral	209	54.9
Semester in the present university		
2nd semester	44	11.5
3rd semester	85	22.3
4th semester	87	22.8
5th semester	81	21.3
6th semester	48	12.6
Over 6th semester	36	9.4

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4.3 Measurement Model Analysis

In this research, the unidimesionality, validity and reliability of each measurement model (latent construct) was conducted (Byrne, 2010; Hair *et al.*, 2010; Zainudin, 2012). The Confirmatory Factor Analysis (CFA) was performed for each latent construct involved in the research model. According to Byrne (2010), the estimation process plays a crucial role in validating the measurement model. The following are the steps involved in estimation process:

i. *Item-deletion process for low factor loading.*

With CFA, any item that does not fit the measurement model due to low factor loading (loading < 0.60) should be removed.

ii. *Examination of goodness-of-fit statistics (fitness-indexes).*

The fitness Indexes must fulfill the following required level as shown in Table 4.3.

Table 4.3: Index Category and Level of Acceptance

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

iii. *Detecting model misspecification issue through modification indexes (MI) and standardized residuals.*

The items redundancy can be examined by inspecting the MI less than 15 (Zainudin, 2012). The model is correctly specified if most of the standardized residual covariance is less than 2.58 in absolute value (Byrne, 2010).

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In this research, two latent variables namely, SPV and SQ were represented as second-order factor model. The second order CFA was performed individually to confirm that measurement items load on underlying latent sub-constructs. The followings sub-sections discuss the second order CFA measurement model for SPV and SQ.

4.3.1 Second-Order Factor Measurement Model: Service Personal Values (SPV)

In this research, SPV construct comprised three sub-constructs. The latent sub-constructs were measured using certain number of items, including service values to peaceful life (SVPL: 4 items); service values to social recognition (SVSR: 5 items); and service values to social integration (SVSI: 3 items). Figure 4.1 illustrates the first-order CFA for three sub-constructs of SPV with underlying items. The estimated correlations were SVPL<-->SVSR (0.88); SVPL<--> SVSI (0.72); and SVSR<-->SVSI (0.87). Cohen (1988) suggested the following guidelines to interpret the strength of correlation values:

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Table 4.4: The Strength of Correlation Values

Strength	values
Small	r = .10 to .29
Medium	r = .30 to .49
Large	r = .50 to 1.0

Thus, correlations among SPV sub-contracts were high. It is important to note that the presence of high correlation values with r > 0.90 indicates multicollinearity problem (Hair *et al.*, 2010).

As shown in Figure 4.1, the fitness indices have achieved required level, specifically χ^2 =127.887; χ^2/df =2.508; TLI=0.953; CFI=0.964 and RMSEA=0.063. However, item SPVI was omitted due to low factor loading, as shown in Table 4.5 below.

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Table 4.5: The Standardized Factor Loadings of SPV Items on their Respective Sub-Construct

Item		Sub-Construct	Standardized Factor Loading	Item		Sub-construct	Standardized Factor Loading
SPV4	<---	SVPL	.802	SPV9	<---	SVSR	.706
SPV3	<---	SVPL	.813	SPV8	<---	SVSR	.679
SPV2	<---	SVPL	.695	SPV7	<---	SVSR	.682
SPV1	<---	SVPL	.594	SPV6	<---	SVSR	.701
SPV12	<---	SVSI	.823	SPV5	<---	SVSR	.637
SPV11	<---	SVSI	.823				
SPV10	<---	SVSI	.688				

Figure 4.2 illustrates the first-order CFA of SPV model after omitting item SPV1. The fitness indices have improved and achieved the required level, specifically χ^2 =107.230; χ^2/df=2.615; TLI=0.955; CFI=0.967 and RMSEA=0.065.

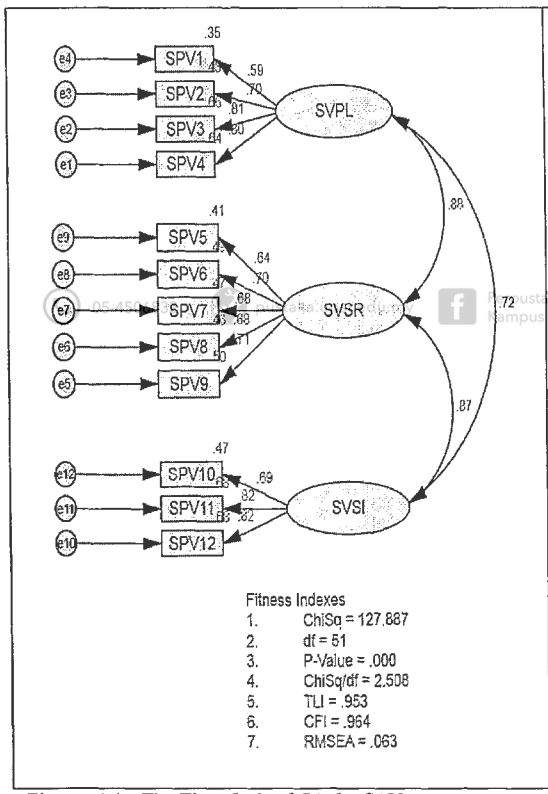


Figure 4.1: The First-Order CFA for SPV (Standardized estimates)

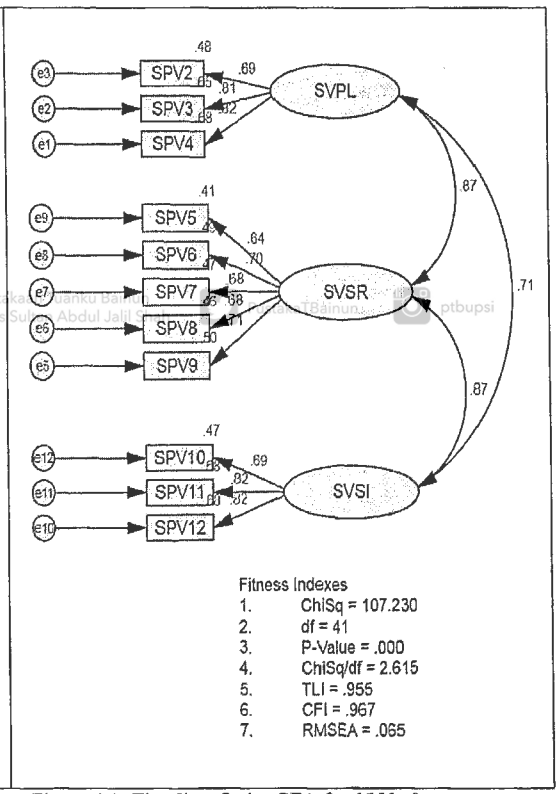


Figure 4.2: The First-Order CFA for SPV after Omitting SPV1 (Standardized Estimates)

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Next, the main construct namely, service personal values (SPV) was linked to all sub-constructs, as shown in Figure 4.3. Although, all the fitness indices have achieved the required level, a crucial issue of negative variance associated error term e14 (-0.047) needs to be addressed (see Figure 4.3). The result in the AMOS output file indicated that the solution is not admissible, and well-known as 'estimation of improper estimates' (Coenders & Saris, 2000). This situation is a common occurrence with application of second-order CFA measurement model. As stated by Byrne (2010), the higher order level of the measurement model with one degree of freedom is over identified. Marsh, Byrne and Craven (1992) suggested an approach to resolve improper solutions that occur in CFA modeling of multitrait multimethod (MTMM) data is to impose an equality constraint between parameters having similar estimates. Consequently, the second-order SPV measurement model has to be re-specified. In this case, the error variance e14 was constrained to equal to e13, which yielded a positive value of approximately the same size (0.269). Figure 4.4 illustrates re-specified SPV measurement model with the error variance for e14 constrained to be equal to e13.

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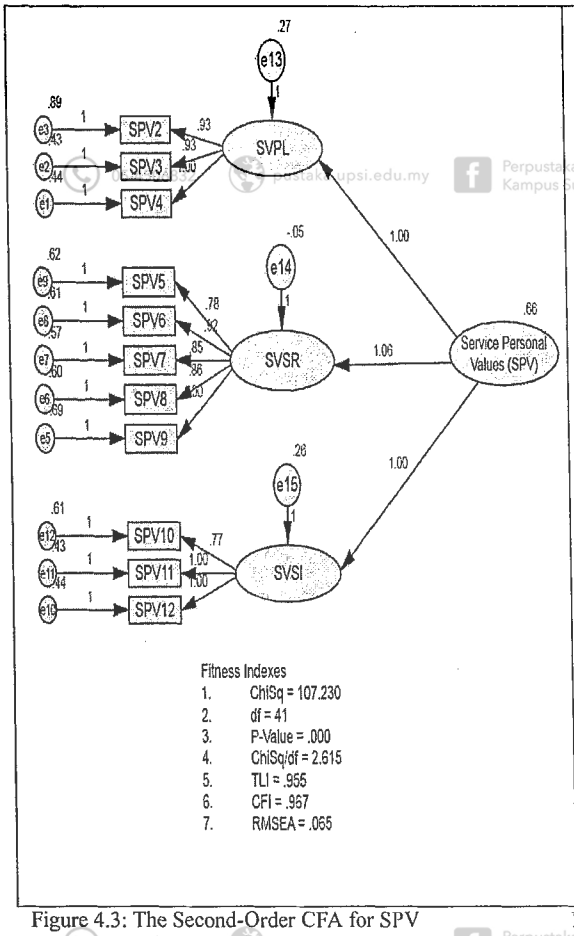


Figure 4.3: The Second-Order CFA for SPV (Unstandardized Estimates)

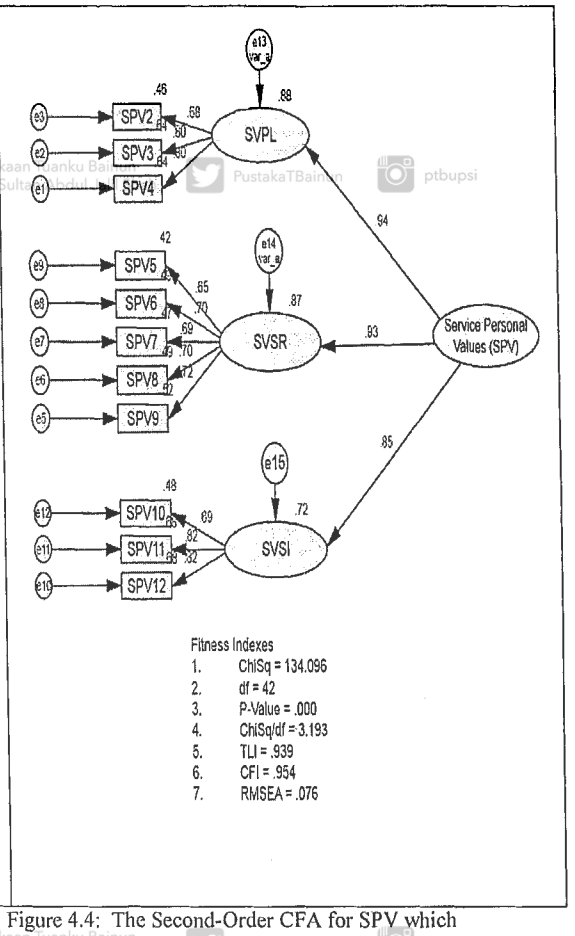


Figure 4.4: The Second-Order CFA for SPV which Error Variance for e14 Constrained Equal to e13 (Standardized Estimates)

The re-specified model yielded a proper solution. The degree of freedom (df) increased from 41 to 42. The standardized factor loadings in Table 4.6 for all sub-constructs were above 0.60. The fitness indices of re-specified SPV measurement model achieved the required level, as follows χ^2 =134.096, χ^2 / df =3.193; TLI=0.939; CFI=0.954 and RMSEA=0.079. Thus, at this stage, no further model modification model was required.

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Table 4.6: The Standardized Factor Loadings of Each Sub-Construct of SPV

Sub-constructs		Construct	Standardized Factor Loading
SVSR	<---	Service Personal Values (SPV)	.932
SVPL	<---	Service Personal Values (SPV)	.940
SVSI	<---	Service Personal Values (SPV)	.846

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As shown in Table 4.7, the probability values indicate that SPV did not have a significant affects on any of the sub-constructs. Therefore, the service personal values (SPV) consist of three sub-constructs, namely SVSR, SVPL and SVSI.

Table 4.7: The Path Analysis of SPV on its Sub-Constructs (The Regression Weights)

Sub-constructs		Construct	**Estimate**	**S.E**	**C.R**	**P**
SVSR	<---	Service Personal Values (SPV)	.938	.075	12.526	***
SVPL	<---	Service Personal Values (SPV)	1.000	Reference point		
SVSI	<---	Service Personal Values (SPV)	.938	.072	13.020	***

**** Indicate highly significant at p-value <0.001*

4.3.2 Second-Order Factor Measurement Model: Service Quality (SQ)

In this research, SQ consisted of five sub-constructs and each sub-construct is measured using certain number of items. The sub-constructs of SQ are academic aspects (SQA: 9 items), reputation (SQR: 10 items); programs issues (SQPI: 2 items), non-academic aspects (SQNA: 12 items) and access (SQACC: 8 items). Figure 4.5 illustrates the first-order CFA for five sub-constructs of SQ with its underlying items. The estimated correlations were SQA<-->SQACC (0.683), SQACC<-->SQPI (0.635), SQNA<-->SQACC (0.851), SQACC<-->SQR (0.767), SQA<-->SQPI (0.679), SQA<-->SQNA (0.668), SQA<-->SQR (0.796), SQR<-->SQPI (0.843), SQNA<-->SQR (0.719), and SQNA<-->SQPI (0.585). These values indicate that the strength of correlation between sub-constructs of SQ is strong (r>0.50).

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As shown in Table 4.8, all factor loadings for items were above 0.60. Thus, none of the items had to be deleted. The results of fitness indices achieved the required level, as follows χ^2=1809.139, χ^2/df=2.535; TLI=0.892; CFI=0.899 and RMSEA=0.060. However, TLI and CFI still did not achieve the required level (less than 0.90). Consequently, SQ measurement model had to be re-specified.

Table 4.8: The Standardized Factor Loadings of SQ Items on their Respective Sub-Construct

Item		Sub-Construct	Standardized Factor Loading	Item		Sub-construct	Standardized Factor Loading
SQ9	<---	SQA	.617	SQ33	<---	SQNA	.710
SQ8	<---	SQA	.717	SQ32	<---	SQNA	.686
SQ7	<---	SQA	.737	SQ31	<---	SQNA	.740
SQ6	<---	SQA	.693	SQ30	<---	SQNA	.755
SQ5	<---	SQA	.805	SQ29	<---	SQNA	.815
SQ4	<---	SQA	.797	SQ28	<---	SQNA	.671
SQ3	<---	SQA	.735	SQ27	<---	SQNA	.768
SQ2	<---	SQA	.755	SQ26	<---	SQNA	.808
SQ1	<---	SQA	.637	SQ25	<---	SQNA	.800
SQ10	<---	SQR	.708	SQ24	<---	SQNA	.851
SQ11	<---	SQR	.610	SQ23	<---	SQNA	.862
SQ12	<---	SQR	.723	SQ22	<---	SQNA	.803
SQ13	<---	SQR	.775	SQ34	<---	SQACC	.741
SQ14	<---	SQR	.654	SQ35	<---	SQACC	.689
SQ15	<---	SQR	.635	SQ36	<---	SQACC	.743
SQ16	<---	SQR	.656	SQ37	<---	SQACC	.749
SQ17	<---	SQR	.733	SQ38	<---	SQACC	.778
SQ18	<---	SQR	.625	SQ39	<---	SQACC	.710
SQ19	<---	SQR	.616	SQ40	<---	SQACC	.752
SQ21	<---	SQPI	.830	SQ41	<---	SQACC	.784
SQ20	<---	SQPI	.779				

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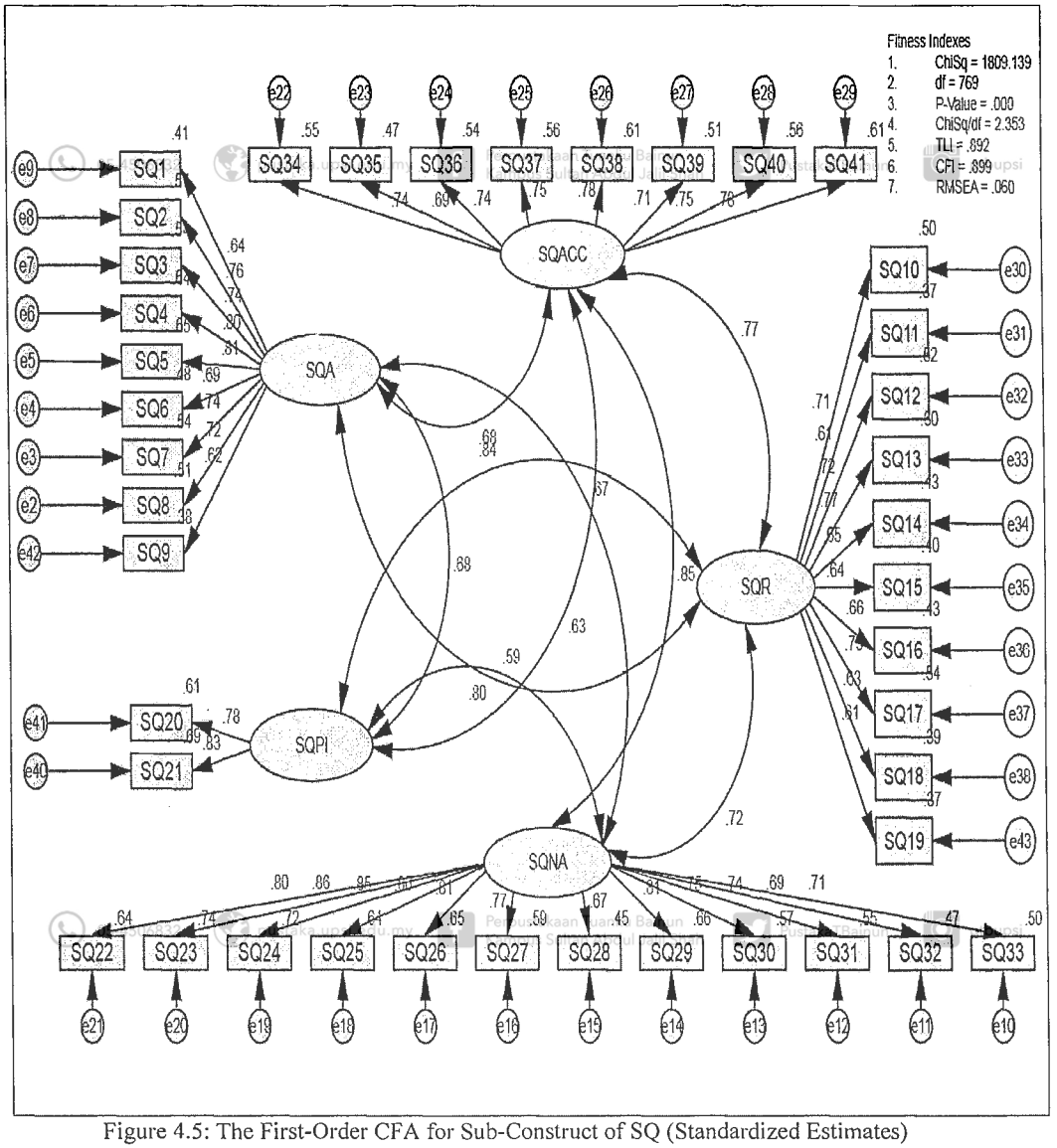


Figure 4.5: The First-Order CFA for Sub-Construct of SQ (Standardized Estimates)

The re-specification of the first order measurement model was performed through second-order CFA (Zainudin, 2012). Figure 4.6 illustrates the links from the main construct SQ to all sub-constructs.

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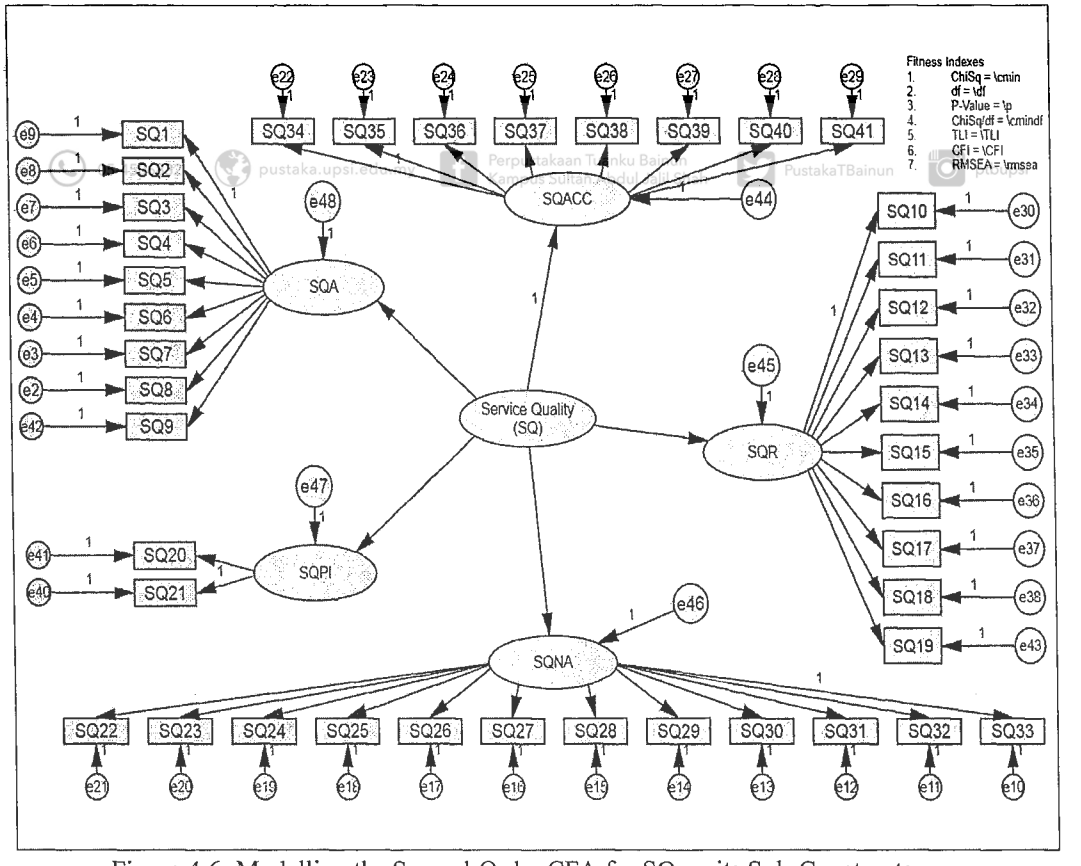


Figure 4.6: Modelling the Second-Order CFA for SQ on its Sub-Constructs

Two types of information should be addressed to enhance the fit of the model or detect the model misspecification (Byrne, 2010). First, the redundant items through the MI had to be examined, and second, standardized residual covariance matrix had to be examined. The following discusses the misspecification issue.

i. Examine the redundant items through the MI

The MI produced by Amos output showed that redundant items exist in the model. Redundant items are shown through the correlated measurement error of the respective item (Zainudin, 2012). Table 4.9 presents the MI for a pair of correlated errors that is greater than 15. These items have decresed the fit of the measurement model.

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Table 4.9: The MI Presents the Covariance between Each Pair of Items in Second-Order CFA for SQ.

Covariance			M.I.	Par Change	Comment
e36	<-->	e37	16.112	.140	MI>15 indicates item SQ16 and item SQ17 are redundant
e28	<-->	e29	18.654	.147	MI>15 indicates item SQ40 and item SQ41are redundant
e23	<-->	e24	32.711	.194	MI>15 indicates item SQ35 and item SQ36 are redundant
e22	<-->	e23	45.647	.255	MI>15 indicates item SQ34 and item SQ35 are redundant
e20	<-->	e21	39.084	.178	MI>15 indicates item SQ22 and item SQ23 are redundant
e13	<-->	e14	17.220	.132	MI>15 indicates item SQ29 and item SQ30 are redundant
e10	<-->	e11	18.448	.156	MI>15 indicates item SQ32 and item SQ33 are redundant
e6	<-->	e7	23.806	.186	MI>15 indicates item SQ4 and item SQ3 are redundant
e4	<-->	e5	18.709	.133	MI>15 indicates item SQ5 and item SQ6 are redundant
e2	<-->	e3	24.911	.190	MI>15 indicates item SQ8 and item SQ7 are redundant

According to Zainudin (2012), to address the misspecification problem, the two correlated errors have to be set as 'free parameter estimates' and the measurement model needs to be re-specified. Figure 4.7 illustrates the re-specification measurement model of SQ after set the two correlated errors to be 'free parameter estimates'. All fitness indices achieved the required level, χ^2=1653.132; χ^2/df=2.164; TLI=0.907; CFI=0.913 and RMSEA=0.055. The fit indices improved after constraining the redundant items in the model.

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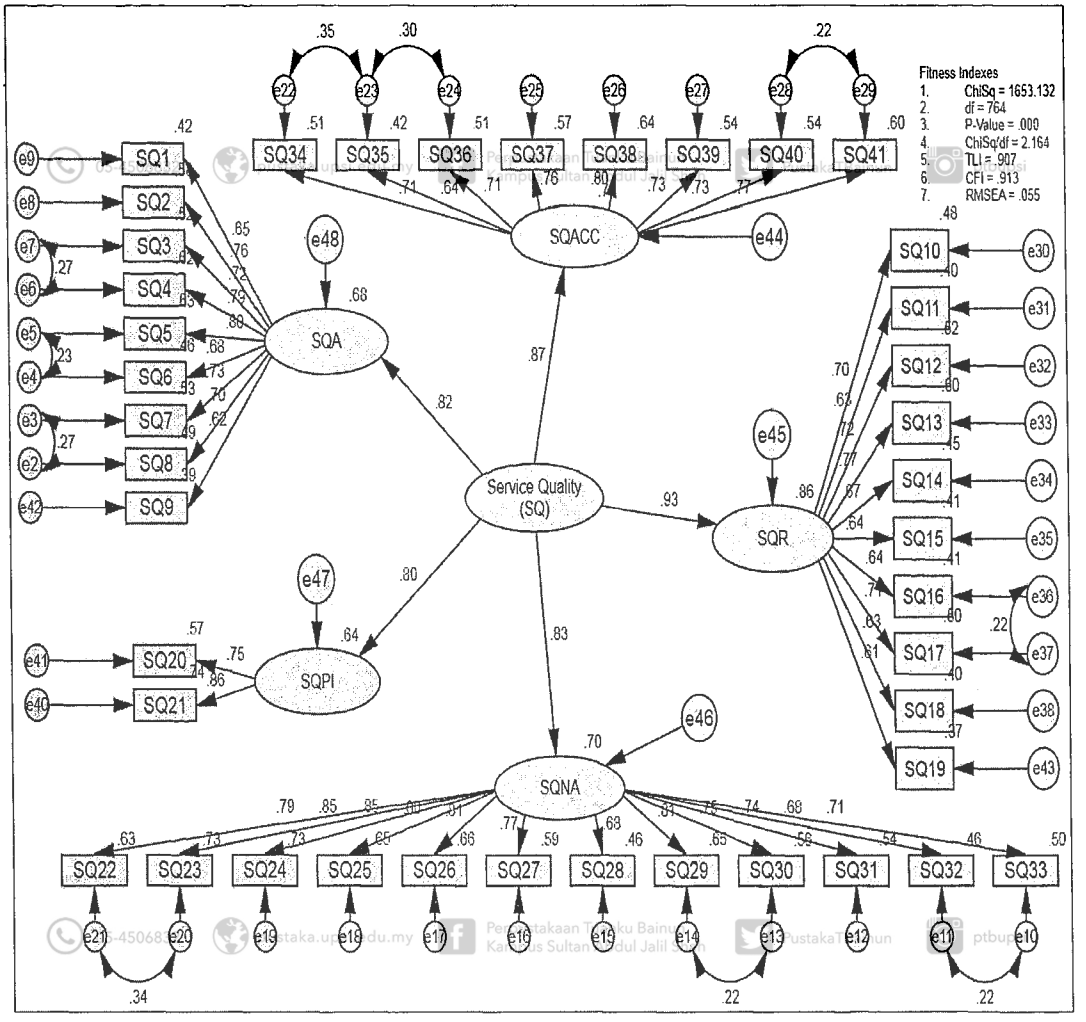


Figure 4.7: The Second-Order CFA for SQ after Redundant Items were Constrained in the Model (Standardized Estimates)

Although all fit indices achieved the required level at this stage, the standardized residuals covariance matrix was examined to identify the 'poor items' and delete them from the construct in the model. These items caused the model to have a poor fit.

ii. Examine standardized residual covariance

The residual covariances reflect the differences between the sample covariance and the model-implied covariance. The model is correctly specified if most standardized residuals are less than 2.58 in absolute value (Byrne, 2010). Based on the standardized residual covariance

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matrix, seven items were deleted because the standardized residual values exceeded the cut-off point of 2.58 (see Appendix E). The deleted items were SQ10, SQ35, SQ25, SQ29, SQ31, SQ32 and SQ1. Figure 4.8 illustrates the re-specification model after delete the items that exceeded 2.58. After model re-specification, the fit indices improved as follows, χ^2 =1052.742; χ^2/df =2.040; TLI=0.927; CFI=0.933 and RMSEA=0.052. Thus, at this stage no further modification was required.

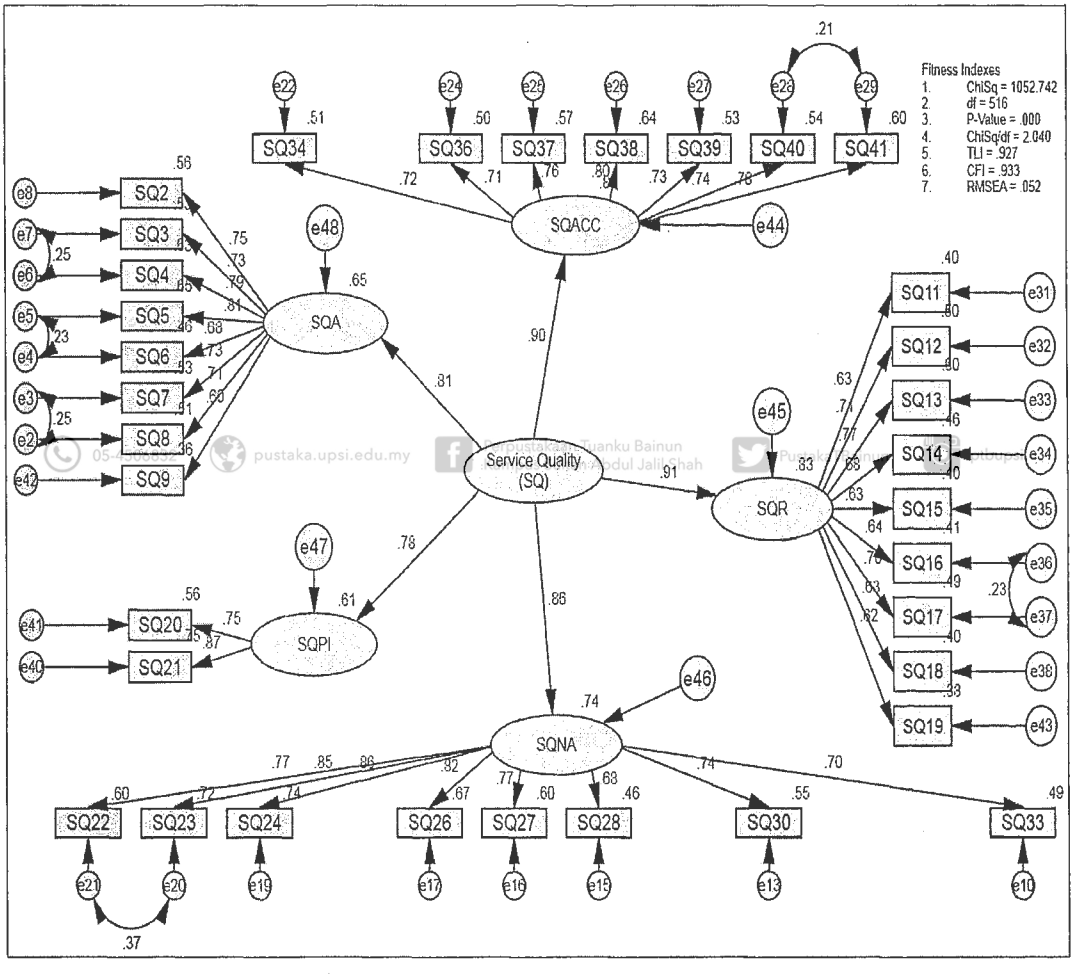


Figure 4.8 The Second-Order CFA for SQ after Examining the Output of Standardized Residual Covariances

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As shown in Table 4.10, the standardized factor loadings for all sub-constructs were above 0.60. Additionally, Table 4.11 presents the probability values indicating that SQ has a significant effect on all sub-constructs. Therefore, Service Quality (SQ) construct comprises six sub-constructs, namely SQACC, SQNA, SQPI, SQA and SQR.

Table 4.10: The Standardized Factor Loadings of Each Sub-Construct of SQ

Sub-constructs		Construct	Standardized Factor Loading
SQACC	<---	Service Quality_(SQ)	.898
SQNA	<---	Service Quality_(SQ)	.860
SQPI	<---	Service Quality_(SQ)	.778
SQA	<---	Service Quality_(SQ)	.806
SQR	<---	Service Quality_(SQ)	.912

Table 4.11: The Path Analysis of SQ regressed on its Sub-Constructs (The Regression Weights)

			Estimate	S.E.	C.R.	P
SQACC	<---	Service Quality_(SQ)	1.000	*Reference point*		
SQNA	<---	Service Quality_(SQ)	.866	.076	11.331	***
SQPI	<---	Service Quality_(SQ)	.902	.077	11.773	***
SQA	<---	Service Quality_(SQ)	.864	.076	11.312	***
SQR	<---	Service Quality_(SQ)	.894	.084	10.626	***

*** *Indicate highly significant at p-value <0.001*

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4.3.3 The Pooled Measurement Model

Next, the assessment of measurement model was performed simultaneously using the CFA pooled measurement model (Zainudin, 2012). This method combines all latent variables in one measurement model. It is also able to address the issue of the model that has less than four items (identification issue). Furthermore, reliability and validity are computed simultaneously. Figure 4.9 illustrates the pooled measurement model that comprises five latent constructs namely, SPV, SV, SQ, E-SAC and FBI. In addition, the CFA were performed simultaneously in order to test the undimensionality, reliability and validity of the measurement model before proceeding to structural model.

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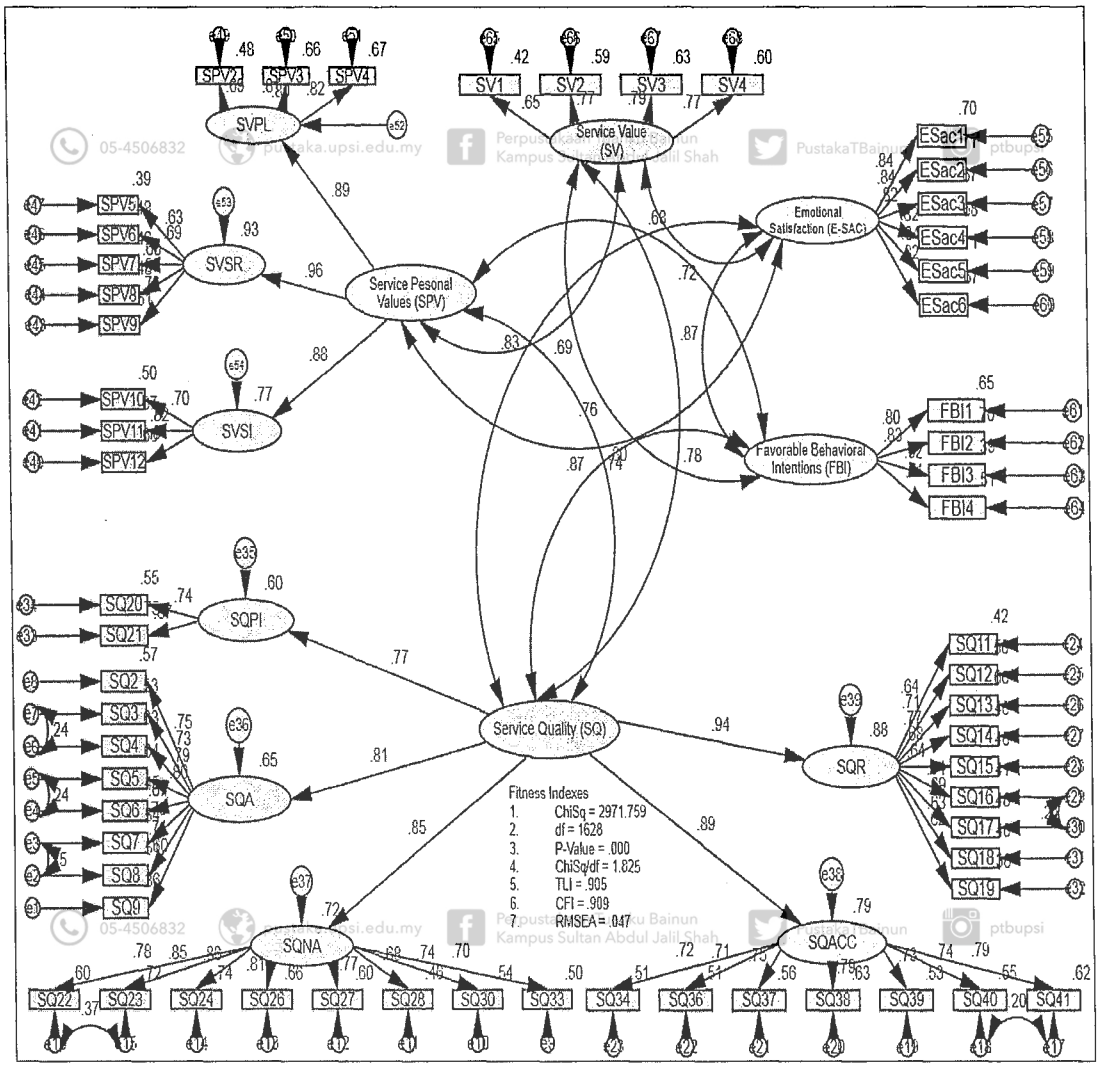


Figure 4.9: The Pooled Measurement Model

All factors loadings for the first-order latent construct (SV, E-SAC and FBI) and second-order latent construct (SPV and SQ) in the pooled measurement model were above 0.60 (see Appendix F). Therefore, all latent constructs have achieved undimensionality. The fitness indices achieved the required level, as follows χ^2 =2971.759 χ^2/df =1.825; TLI=0.905; CFI=0.909 and RMSEA=0.047. However, two misspecification issues, the MI and standardized residual covariance, needed to be considered to improve the fit of the model before performing the structural analysis. The MI produced by AMOS output shows the redundancy of items in pooled

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measurement model. Table 4.12 presents the MI for a pair of correlated errors that is greater than 15. To solve this issue, two correlated errors were set as 'free parameter estimates' and the pooled measurement model were re-specified.

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Table 4.12: The MI Presents the Covariance between Each Pair of Items in Pooled Measurement Model

Covariance			M.I.	Par Change	Comment
e56	<-->	e60	17.738	-0.106	MI>15 indicates item E-SAC2 and item E-SAC6 are redundant
e55	<-->	e59	17.769	-0.095	MI>15 indicates item E-SAC1 and item E-SAC5 are redundant
e55	<-->	e56	20.047	0.096	MI>15 indicates item E-SAC1 and item E-SAC2 are redundant

Figure 4.10 illustrates the re-specified pooled measurement model after setting the two correlated errors as 'free parameter estimates'. All fit indices improved after constraining the redundant items in the model, specifically χ^2=2925.800; χ^2/df =1.800; TLI=0.907; CFI=0.912 and RMSEA=0.046.

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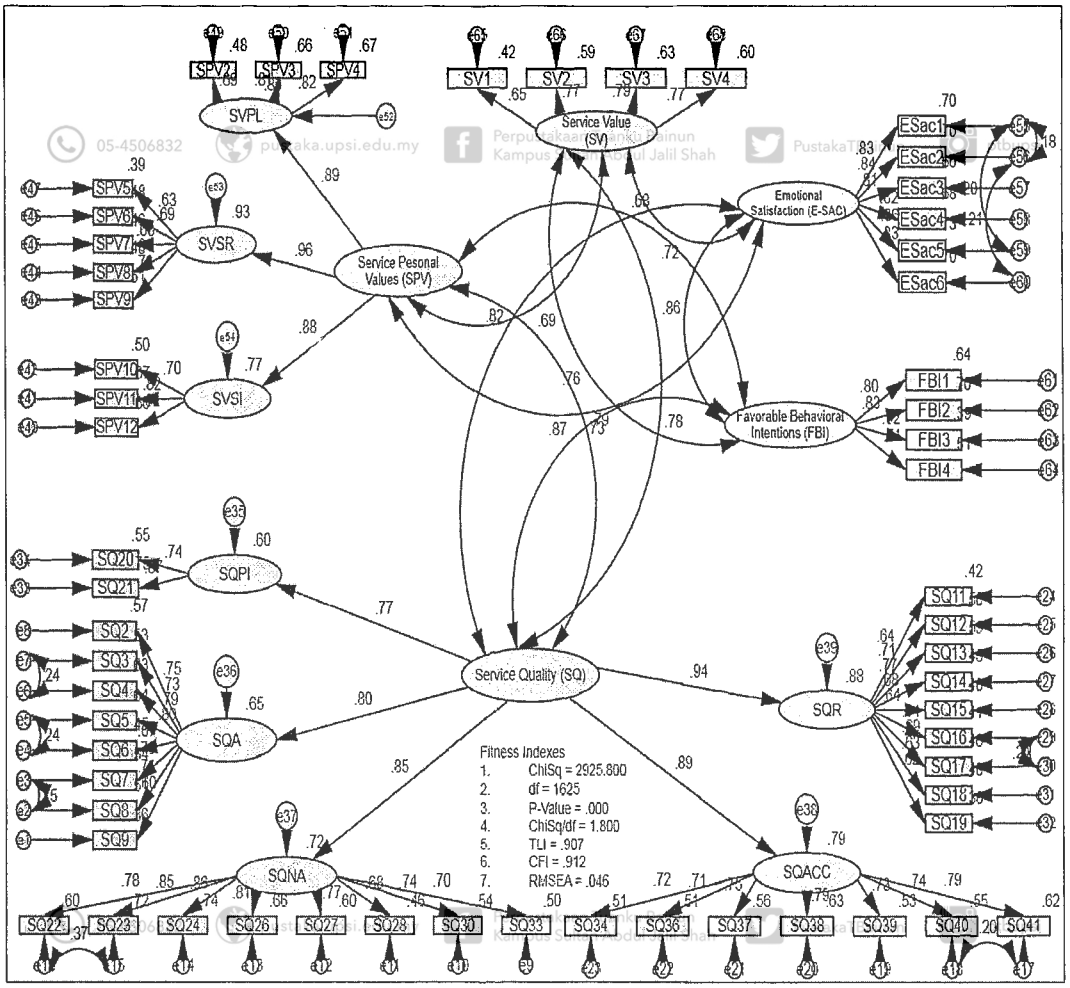


Figure 4.10: The Pooled Measurement Model after Redundant Items were Constrained in the Model (Standardized Estimates)

Next, the issue of standardized residual covariance was addressed to ensure that the model is specified correctly. Based on the standardized residual covariance matrix (see Appendix G), all standardized residuals values were smaller than 2.58 in absolute value. Therefore, no items had to be deleted. The CFA for pooled measurement model was completed at this stage.

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Unidimensionality, validity and reliability had to be assessed, before modeling the structural model (Zainudin, 2012). The following paragraphs reports the unidimensionality, validity and reliability of the constructs.

i. *Unidimensionality.* The unidimensionality is achieved by deleting the items with low factor loadings. The new model is run and the item deletion process is repeated until the fit indices reach the required levels. The process for examining the unidimensionality has been demonstrated. In this research, the established scales were used to operationalize all latent constructs. All latent constructs in this research achieved undimensionality with factor loadings greater than 0.60.

ii. *Validity.* In this research, three types of validities were tested, namely convergent validity, construct validity and discriminant validity. The following section discusses the results of validity.

- Convergent validity. In this research, the convergent validity was assessed through Average Variance Extracted (AVE). The value of AVE should be 0.50 or higher to achieve convergent validity (Fornell & Larcker, 1981). AVE is measured using the following formula:

$$AVE = \sum K^2 / n$$

K = factor loading of every item
n= number of items in a model

Table 4.13 presents the results of AVE. The results indicated that the values of AVE for each construct were higher compared to those for AVE. Therefore, all constructs investigated in this research achieved the convergent validity. This means the items

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that measure a particular construct have a high percentage of shared variance.

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Table 4.13: The Results of Validity and Reliability

Construct	Item	Factor Loading	Cronbach Alpha (Above 0.70)	CR (Above 0.60)	AVE (Above 0.50)
Service Personal Values (SPV)	SVPL	0.893	0.911	0.937	0.831
	SVSR	0.964			
	SVSI	0.876			
Service Value (SV)	SV1	0.650	0.834	0.835	0.560
	SV2	0.767			
	SV3	0.794			
	SV4	0.773			
Service Quality (SQ)	SQPI	0.771	0.969	0.929	0.724
	SQA	0.805			
	SQNA	0.846			
	SQACC	0.887			
	SQR	0.936			
Emotional Satisfaction (ESAC)	ESAC1	0.834	0.930	0.932	0.695
	ESAC2	0.839			
	ESAC3	0.814			
	ESAC4	0.823			
	ESAC5	0.857			
	ESAC6	0.834			
Favorable Behavioral Intentions (FBI)	FBI1	0.802	0.821	0.833	0.559
	FBI2	0.834			
	FBI3	0.623			
	FBI4	0.713			

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- Construct validity. The construct validity is achieved when the fit indices accomplish the required levels. The construct validity was demonstrated for all construct. In this research, all fit indices for the measurement model were reach the required levels, as follows CFI > 0.90, TLI > 0.90, RMSEA < 0.08, and χ^2 / df ratio < 5.0. Therefore, in this research, all constructs were able to capture the construct designed to measure the customer experience phenomenon.
- Discriminant validity. Two requirements need to be met to achieve the discriminant validity. First, the researcher should ensure that the measurement model is free from redundant items. The redundant items in the measurement model were determined

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using high Modification Indexes (MI). In this research, all redundant items were set as 'free parameter estimate'. All the processes of MI have been demonstrated. Second, discriminant validity is achieved when the correlations between exogenous (independent) constructs are less than 0.90 (Hair *et al.*, 2010). Table 4.14 summarizes the discriminant validity index. The diagonal values (in bold) represent the square root of AVE while others are the correlations between the respective constructs. Table 4.14 shows that the estimated correlations among exogenous variables are less than 0.90. Thus, all constructs had acceptable discriminant validity. This means that, the indicators or measured variables had higher association with their respective constructs compared to other constructs in a given model.

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Table 4.14: The Discriminant Validity Index Summary (The Exogenous Latent Constructs)

Construct	SPV	SV	SQ	E-SAC	*FBI
SPV	**0.912**				
SV	0.695	**0.748**			
SQ	0.795	0.784	**0.851**		
E-SAC	0.732	0.716	0.825	**0.834**	
*FBI	*0.681*	*0.760*	*0.865*	*0.862*	***0.748***

**Endogenous variable: FBI*

iii. *Reliability.* In this research, the reliability was assessed through the following processes:

- Internal reliability. The internal reliability is achieved when the Cronbach's alpha value is higher than 0.70. As shown in Table 4.13, Cronbach's alpha values for each construct were greater than 0.70. Thus, all construct had acceptable internal reliability.

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- Construct reliability (CR). Construct reliability assesses how reliably the measurement model measures the intended latent construct. A construct that has a values of CR greater than 0.60 is considered reliable. In this research, CR was measured using the following formula:

$$CR = \left(\sum K\right)^2 / \left[\left(\sum K\right)^2 + \left(\sum 1 - K^2\right)\right]$$

K = factor loading of every item
n = number of items in a mode

As presented in Table 4.13, the CR values of all constructs are greater than 0.60. Thus, the latent variables have acceptable construct reliability.

- Average Variance Extracted (AVE). In this research, AVE was also used to assess the reliability. Table 4.13 shows that the values of AVE for all constructs are greater than 0.50.

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4.4 Structural Model Analysis (Hypotheses Testing)

The main purpose of this research is to examine the causal effects among the latent variables of customer experience in higher education service delivery. Table 4.15 presents the research hypotheses. Based on the theoretical perspectives, seven direct hypotheses and three indirect hypotheses (mediating) were tested using structural analysis.

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Table 4.15: Research Hypotheses

Direct Effect
The direct effect of PIS' cognitive variables on affective variable H1: SPV has a significant effect on E-SAC H2: SV has a significant effect on E-SAC H3: SQ has a significant effect on E-SAC
The direct effect of PIS' affective variables on behavioral variable H4: E-SAC has a significant effect on FBI
The direct effect of PIS' cognitive variables on behavioral variable H5: SPV has a significant effect on FBI H6: SV has a significant effect on FBI H7: SQ has a significant effect on FBI
Indirect Effect
PIS's affective variable mediates the relationship between cognitive variables and behavioral phase variable. H8: ESAC mediates the relationship between SPV and FBI H9: ESAC mediates the relationship between SV and FBI H10: ESAC mediates the relationship between SQ and FBI

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4.4.1 Analyzing the Causal Effects

The structural analysis tested seven direct hypotheses simultaneously. Figure 4.11 illustrates the standardized regression estimates for the structural model. The fit indices achieved the required level, as follows χ^2 =2931.103; χ^2/df =1.803; TLI=0.907; CFI=0.912 and RMSEA=0.046. The standardized regressions weights produced by AMOS are presented in Table 4.16 below.

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Table 4.16: The Standardized Regression Weights of Structural Model

Path		Path	Standardized Beta Estimate
Emotional Satisfaction (E-SAC)	<---	Service Personal Values (SPV)	.197
Emotional Satisfaction (E-SAC)	<---	Service Value (SV)	.143
Emotional Satisfaction (E-SAC)	<---	Service Quality (SQ)	.554
Favorable Behavioral Intentions (FBI)	<---	Service Quality (SQ)	.478
Favorable Behavioral Intentions (FBI)	<---	Emotional Satisfaction (E-SAC)	.468
Favorable Behavioral Intentions (FBI)	<---	Service Personal Values (SPV)	-.150
Favorable Behavioral Intentions (FBI)	<---	Service Value_(SV)	.155

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The standardized regression weights can be interpreted as follows:

- When SPV increases by 1 standard deviation, E-SAC increases by 0.197 standard deviations.
- When SV increases by 1 standard deviation, E-SAC increases by 0.143 standard deviations.
- When SQ increases by 1 standard deviation, E-SAC increases by 0.554 standard deviations.
- When SQ increases by 1 standard deviation, FBI increases by 0.478 standard deviations.
- When E-SAC increases by 1 standard deviation, FBI increases by 0.468 standard deviations.
- When SPV increases by 1 standard deviation, FBI decreases by -0.150 standard deviations.
- When SV increases by 1 standard deviation, FBI increases by 0.155 standard deviations.

Figure 4.11 also shows the value of coefficient of determination or R^2. The R^2 value measures the fraction of variance that a model explains. In other words, it indicates how well the exogenous variables predict an endogenous variable. The standardized structural model (see Figure 4.11) indicates that SPV, SV and SQ explained 71% (R^2=0.71) in E-SAC, and SPV, SV and SQ explained 83% (R^2=0.83) in FBI.

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Next, the causal relationships were examined. Figure 4.12 summarizes the unstandardized regressions estimates to examine the hypothesized relationships. The regressions weights indicate the actual beta coefficient, which measures the effect of every path. In the following section, we interpret the regressions weights and make a decision concerning the causal hypothesized relationships.

i. Examine the direct effect of PIS' cognitive variables on affective variable.

H1: SPV has a significant effect on E-SAC

Table 4.17: The Hypothesis Testing for the Causal Effect of SPV on E-SAC

			Actual Beta Estimate	S.E.	C.R.	P
Emotional Satisfaction (E-SAC)	<---	Service Personal Values (SPV)	.235	.086	2.738	.006

As shown in Table 4.17, probability of getting a critical ratio as large as 2.738 in absolute value is 0.006. In other words, the regression weight for SPV in the prediction of E-SAC is significantly different from zero at the 0.05 level (two-tailed). Thus, **H1 was supported.**

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H2: SV has a significant effect on E-SAC

Table 4.18: The Hypothesis Testing for the Causal Effect of SV on E-SAC

			Actual Beta Estimate	S.E.	C.R.	P
Emotional Satisfaction (E-SAC)	<---	Service Value (SV)	.162	.078	2.083	.037

As shown in Table 4.18, the probability of getting a critical ratio as large as 2.083 in absolute value is 0.037. In other words, the regression weight for SV in the prediction of E-SAC is significantly different from zero at the 0.05 level (two-tailed). Thus, **H2 was supported.**

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H3: SQ has a significant effect on ESAC

Table 4.19: The Hypothesis Testing for the Causal Effect of SQ on E-SAC

			Actual Beta Estimate	S.E.	C.R.	P
Emotional Satisfaction (E-SAC)	<---	Service Quality (SQ)	.716	.117	6.130	***

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

As shown in Table 4.19, the probability of getting a critical ratio as large as 6.130 in absolute value is less than 0.001. In other words, the regression weight for SQ in the prediction of E-SAC is significantly different from zero at the 0.001 level (two-tailed). Thus, **H3 was supported.**

ii. Examine the direct effect of PIS' affective variable on behavioral responses variable.

H4: ESAC has a significant effect on FBI

Table 4.20: The Hypothesis Testing for the Causal Effect of E-SAC on FBI

			Actual Beta Estimate	S.E.	C.R.	P
Favorable Behavioral Intentions (FBI)	<---	Emotional Satisfaction (E-SAC)	.448	.070	6.420	***

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

As shown in Table 4.20, the probability of getting a critical ratio as large as 6.420 in absolute value is less than 0.001. In other words, the regression weight for E-SAC in the prediction of FBI is significantly different from zero at the 0.001 level (two-tailed). Thus, **H4 was supported.**

iii. Examine the direct effect of PIS' cognitive variables on behavioral variable.

H5: SPV has a significant effect on FBI

Table 4.21: The Hypothesis Testing for the Causal Effect of SPV on FBI

			Actual Beta Estimate	S.E.	C.R.	P
Favorable Behavioral Intentions (FBI)	<---	Service Personal Values (SPV)	-.172	.082	-2.098	.036

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As shown in Table 4.21, the probability of getting a critical ratio as large as 2.098 in absolute value is 0.036. In other words, the regression weight for SPV in the prediction of FBI is significantly different from zero at the 0.05 level (two-tailed). Thus, **H5 was supported.**

H6: SV has a significant effect on FBI

Table 4.22: The Hypothesis Testing for the Causal Effect of SV on FBI

			Actual Beta Estimate	S.E.	C.R.	P
Favorable Behavioral Intentions (FBI)	<---	Service Value (SV)	.168	.074	2.275	.023

As shown in Table 4.22, the probability of getting a critical ratio as large as 2.275 in absolute value is 0.023. In other words, the regression weight for SV in the prediction of FBI is significantly different from zero at the 0.05 level (two-tailed). Thus, **H6 was supported.**

H7: SQ has a significant effect on FBI

Table 4.23: The Hypothesis Testing for the Causal Effect of SQ on FBI

			Actual Beta Estimate	S.E.	C.R.	P
Favorable Behavioral Intentions (FBI)	<---	Service Quality (SQ)	.591	.121	4.884	***

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

As shown in Table 4.23, the probability of getting a critical ratio as large as 4.884 in absolute value is less than 0.001. In other words, the regression weight for SQ in the prediction of FBI is significantly different from zero at the 0.001 level (two-tailed). Thus, **H7 was supported.**

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Table 4.24 summarizes the regression equation for each path in the structural model. The results supported all proposed hypotheses.

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Table 4.24: The Regression Equation

Hypothesis	Endogenous variable	Coefficient of the exogenous variable	Error term	Result
H1	ESAC =	0.235*SPV	+error 72	Significant
H2	ESAC=	0.162*SV	+error 72	Significant
H3	ESAC=	0.716*SQ	+error 72	Significant
H4	FBI=	0.448*ESAC	+ error 71	Significant
H5	FBI=	-0.172*SPV	+ error 71	significant
H6	FBI=	0.168*SV	+ error 71	Significant
H7	FBI=	0.591*SQ	+ error 71	Significant

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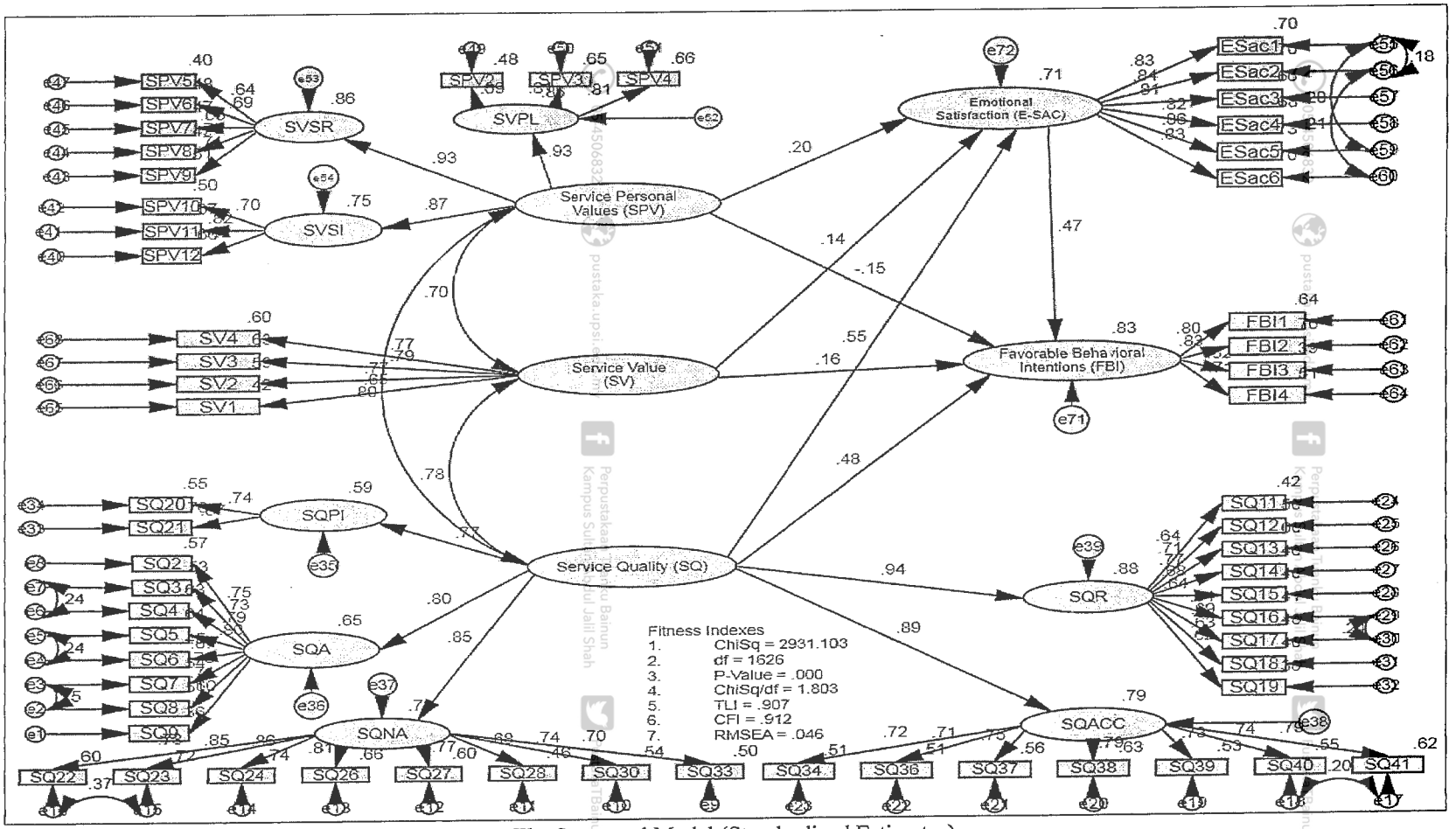


Figure 4.11: The Structural Model (Standardized Estimates)

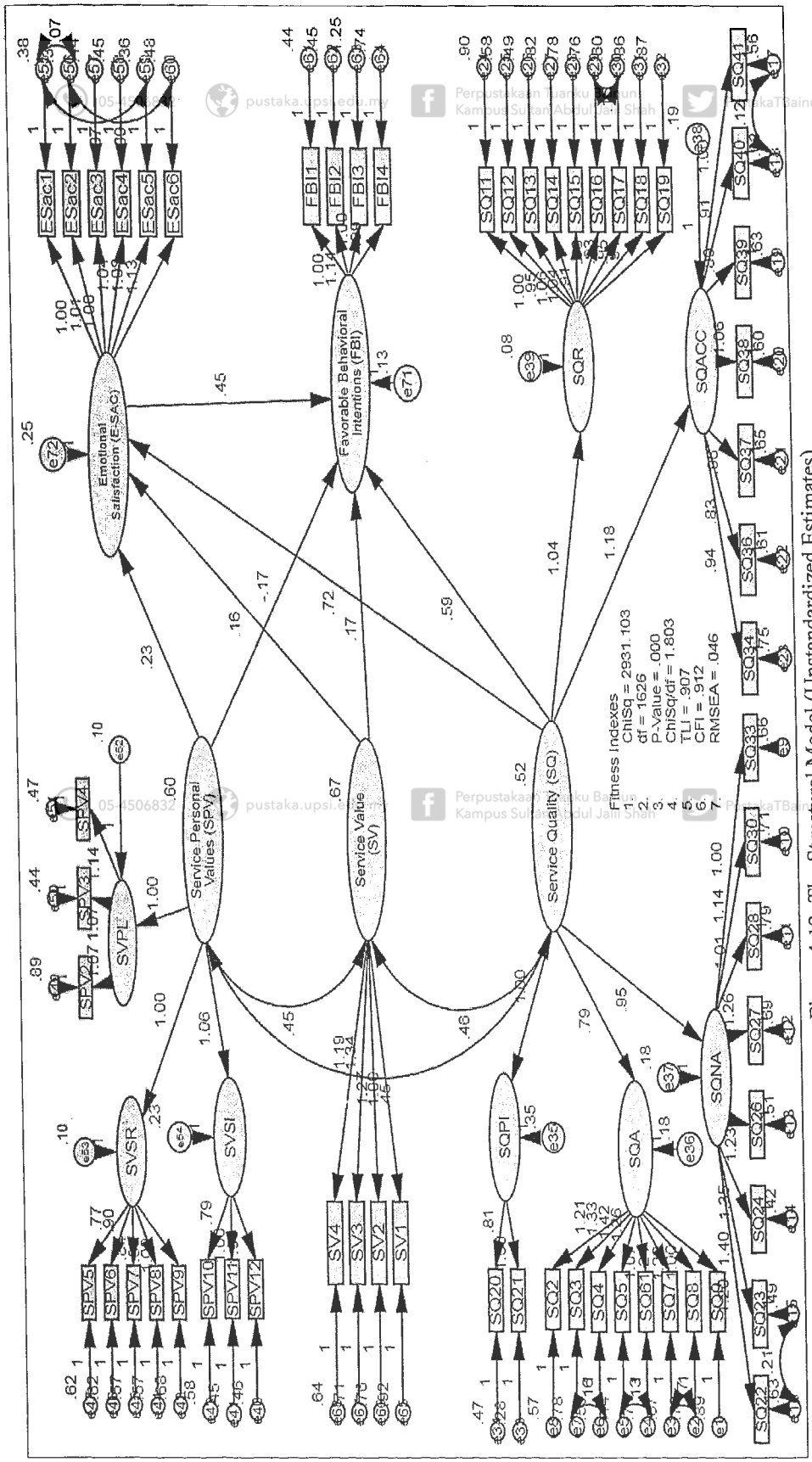


Figure 4.12: The Structural Model (Unstandardized Estimates)

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4.5 Analyzing the Mediating Effects

In this research, three indirect paths from PIS' cognitive variables (SPV, SV and SQ) on behavioral variable (FBI) via affective variable (ESAC) were tested. The following discusses the analysis of the mediation effects.

i. ***H8: ESAC mediates the relationship between SPV and FBI***

The mediation analysis begins by showing the significant and meaningful direct effect of SPV on FBI. As shown in Table 4.25, the direct effect of SPV on FBI was significant.

Table 4.25: The Direct Effect of SPV on FBI (Testing for Mediation)

			Actual Beta Estimate	S.E.	C.R.	P
Favorable Behavioral Intentions (FBI)	<---	Service Personal Values (SPV)	0.773	.077	10.060	***

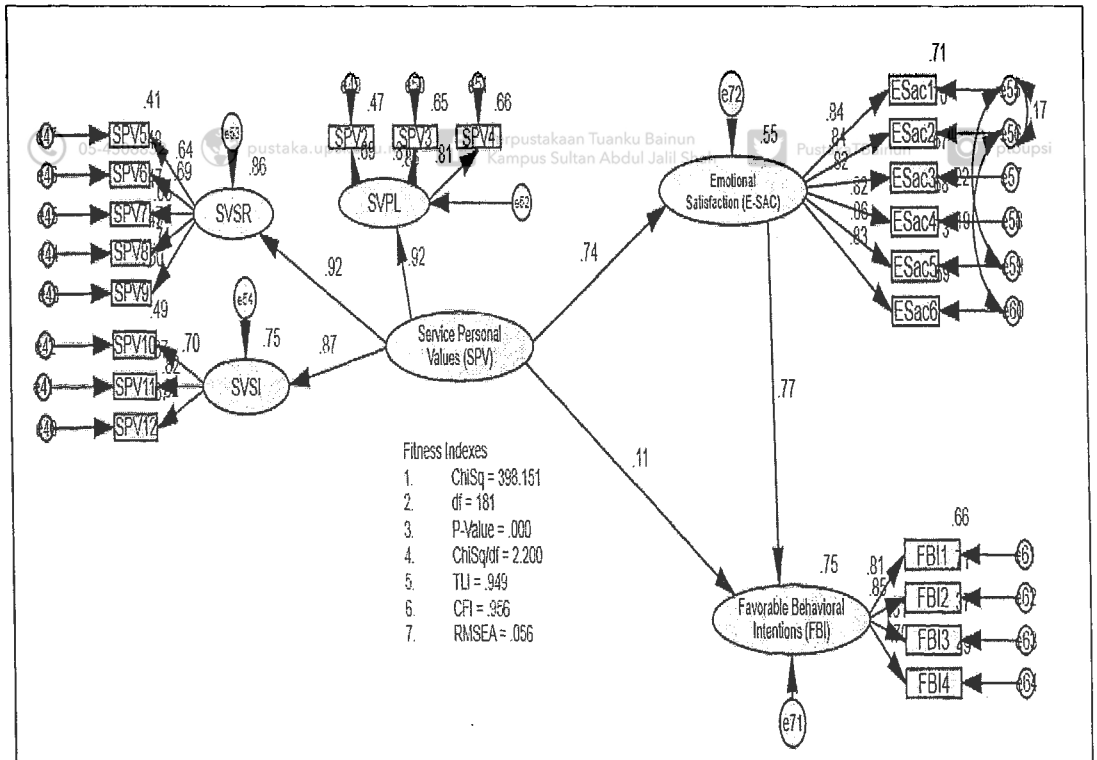
****indicate a highly significant at p<0.001*

Figure 4.13 illustrates the indirect relationship between SPV and FBI when E-SAC enters the model. The following procedure was followed to test the mediation effect proposed in **H8.**

- The indirect effect: 0.74 x 0.77 = 0.57
- The direct effect = 0.11
- Both indirect effects (SPV to E-SAC and E-SAC to FBI) were significant
- Since Indirect effect > direct effect, the mediation occurs.
- Type of mediation here is complete mediation since the direct effect is not significant after mediator enters the model.

Thus, H8 was supported.

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			Estimate	S.E.	C.R.	P
Emotional Satisfaction (E-SAC)	<---	Service Personal Values (SPV)	.901	.078	11.478	***
Favorable Behavioral Intentions (FBI)	<---	Emotional Satisfaction (E-SAC)	.744	.068	10.872	***
***indicate a highly significant at p<0.001						
Favorable Behavioral Intentions (FBI)	<---	Service Personal Values (SPV)	.133	.073	1.816	0.069

Figure 4.13: ESAC Mediates the Relationship between SPV and FBI (Standardized Regressions)

Next, the effect sizes in mediation model were determined. Specifically, two effect sizes were computed as follows:

a. The r^2 measures the effect size of individual path in the model (3 paths).

The following steps measured the effect size of individual path in the model (Figure 4.13)

- r^2XM represents the squared partial correlation between X (exogenous) and M (mediator) variables in the model.

  Solution: The effect size of SPV on E-SAC is 0.55.

- r^2XY denotes the squared partial correlation between X and Y (endogenous) variables in the model.

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Solution: The effect size of SPV on FBI is 0.47

- $r^2MY.X$ corresponds to the squared partial correlation between M and Y variables with the influence of X removed.

Solution: The effect size of E-SAC on FBI, when controlling for X is equivalent to $r^2XMY - r^2XY$ = 0.75-0.47=0.28

Thus, a mediator has a large effect on FBI.

b. The R^2 measures the size of the mediated effect in the model (E-SAC)

Solution:

$r^2MY-(r^2XMY-r^2XY)$

Where,

r^2XY is the R^2 for the model containing X and Y only

r^2MY is the R^2 for the model containing M and Y only

r^2XMY is the R^2 for the model containing all X, M and Y

$r^2MY-(r^2XMY-r^2XY)$ = 0.74-(0.75-0.47) = 0.46.

Thus, based on Cohen (1988), the mediated effect size (E-SAC) in the relationship between SPV and FBI is large.

ii. ***H9: ESAC mediates the relationship between SV and FBI***

As shown in Table 4.26, the direct effect of SV on FBI is significant.

Table 4.26: The Direct Effect of SV on FBI (Testing for Mediation)

			Actual Beta Estimate	S.E.	C.R.	P
Favorable Behavioral Intentions (FBI)	<---	Service Value (SV)	.791	.075	10.517	***

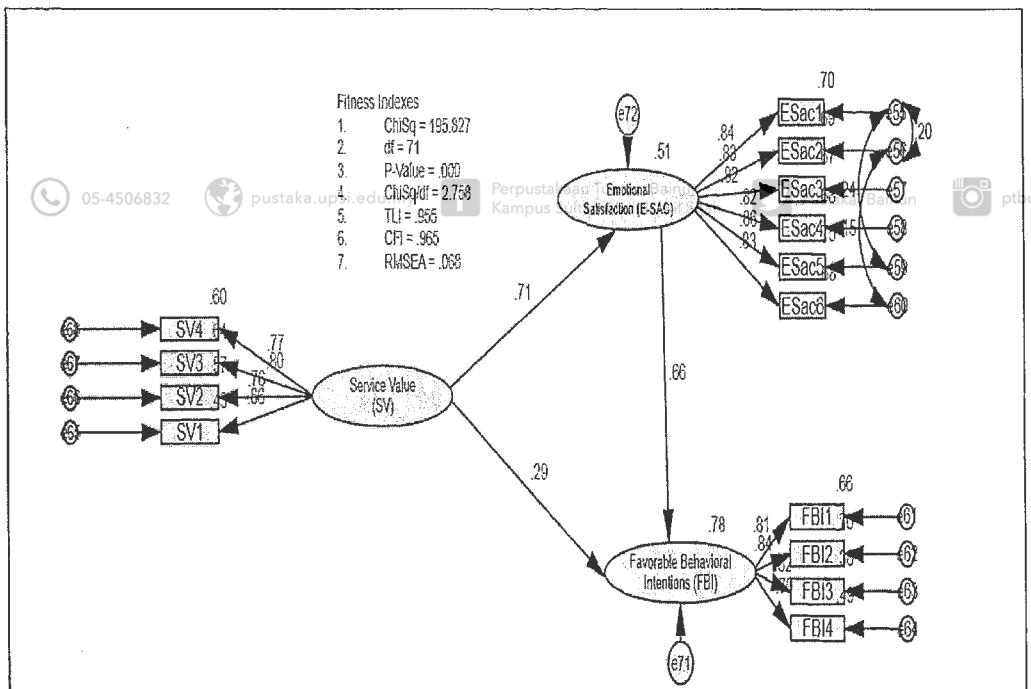
****indicate a highly significant at p<0.001*

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Figure 4.14 illustrates indirect relationship between SV and FBI when including E-SAC in the model. The mediation effect proposed in **H9** was based on the following:

- The indirect effect: 0.71 x 0.66 = 0.46
- The direct effect = 0.29
- Both indirect effects (SV to E-SAC and E-SAC to FBI) were significant
- Since Indirect effect > direct effect, the mediation occurs.
- Type of mediation here is partial mediation, since the direct effect remained significant after including mediator in the model.

Thus, H9 was supported.



			Estimate	S.E.	C.R.	P
Emotional Satisfaction (E-SAC)	<---	Service Value_(SV)	.804	.075	10.672	***
Favorable Behavioral Intentions (FBI)	<---	Emotional Satisfaction (E-SAC)	.631	.062	10.206	***
Favorable Behavioral Intentions (FBI)	<---	Service Value_(SV)	.313	.067	4.675	***

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

Figure 4.14: ESAC Mediates the Relationship between SV and FBI (Standardized Regressions)

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Next, the effects sizes in mediation model were computed as follows:

a. The following steps were used to measure the effect size of individual paths in the model (Figure 4.14)

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- r^2XM represents the squared partial correlation between X (exogenous) and M (mediator) variables in the model.

  Solution: The effect size of SV on E-SAC is 0.51.

- r^2XY denotes the squared partial correlation between X and Y (endogenous) variables in the model.

  Solution: The effect size of SV on FBI is 0.57.

- $r^2MY.X$ corresponds to the squared partial correlation between M and Y variables with the influence of X removed.

  Solution: The effect size of E-SAC on FBI, while controlling for X is equivalent to $r^2XMY - r^2XY$ = 0.78-0.57=0.21.

  Thus, the mediator has a medium effect on FBI.

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b. The R^2 measures the size of the mediated effect in the model (E-SAC)

   Solution:

   $r^2MY - (r^2XMY - r^2XY)$

   Where,

   r^2XY is the R^2 for the model containing X and Y only

   r^2MY is the R^2 for the model containing M and Y only

   r^2XMY is the R^2 for the model containing all X, M and Y

   $r^2MY - (r^2XMY - r^2XY)$ = 0.74-(0.78-0.57)=0.53.

   Thus, based on Cohen (1988), the mediated effect size (E-SAC) in the relationship between SV and FBI is large.

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iii. ***H10: ESAC mediates the relationship between SQ and FBI***

As shown in Table 4.27, the direct effect of SQ on FBI is significant.

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Table 4.27: The Direct Effect of SQ on FBI (Testing for Mediation)

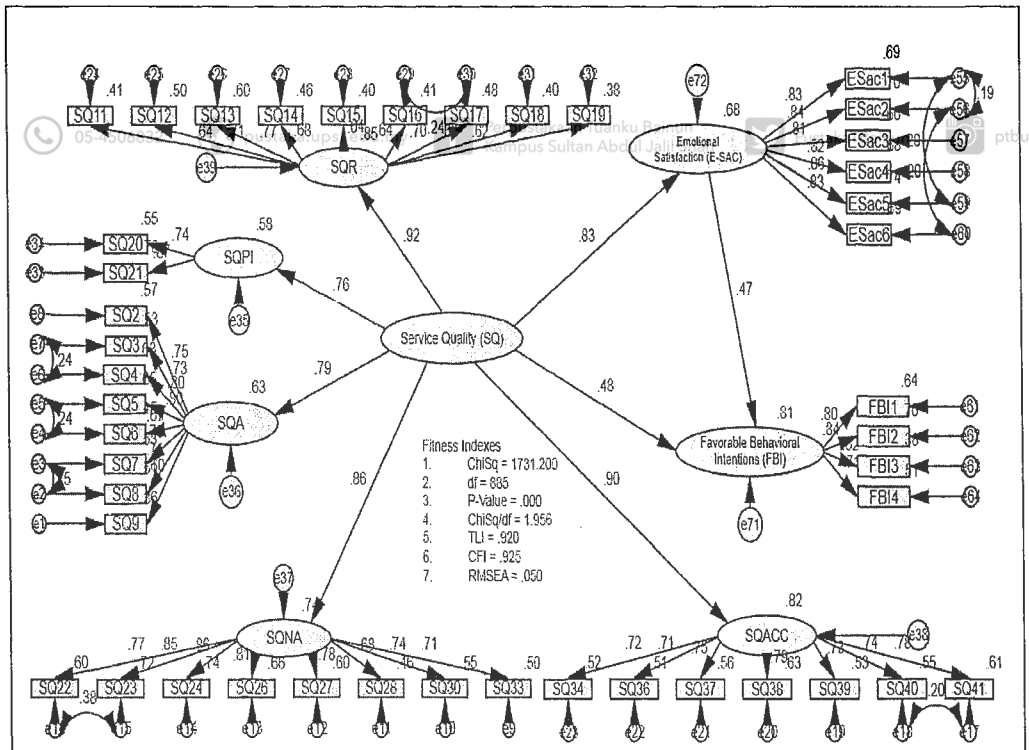
			Actual Beta Estimate	S.E.	C.R.	P
Favorable Behavioral Intentions (FBI)	<---	Service Quality (SQ)	1.033	.084	12.311	***

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

Figure 4.15 illustrates the indirect relationship between SQ and FBI when including E-SAC in the model. The mediation effect proposed in ***H10*** was determined based on the following:

- The indirect effect: 0.83 x 0.47 = 0.3901
- The direct effect = 0.48
- Both indirect effects (SQ to E-SAC and E-SAC to FBI) were significant. However, the indirect effect was lower compared to direct effect. In this case, beta coefficient (direct effect) in single model was compared with beta coefficient for the model with the E-SAC as the mediator. The analysis showed that the value declined from 0.86 to 0.48 when E-SAC was included. Thus, this type of mediation is partial mediation (Zainudin, 2012).

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			Estimate	S.E.	C.R.	P
Emotional Satisfaction (E-SAC)	<---	Service Quality (SQ)	1.069	.085	12.556	***
Favorable Behavioral Intentions (FBI)	<---	Service Quality (SQ)	.592	.095	6.226	***
Favorable Behavioral Intentions (FBI)	<---	Emotional Satisfaction (E-SAC)	.447	.070	6.414	***

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

Figure 4.15: ESAC Mediates the Relationship between SQ and FBI (Standardized Regressions)

Next, the effects sizes in mediation model were computed as follows:

a. The following steps were used to measure the effect size of individual paths in the model (Figure 4.15).

- r^2XM represents the squared partial correlation between X (exogenous) and M (mediator) variables in the model.

  Solution: The effect size of SQ on E-SAC is 0.68.

- r^2XY denotes the squared partial correlation between X and Y (endogenous) variables in the model.

  Solution: The effect size of SQ on FBI is 0.75.

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- $r^2MY.X$ corresponds to the squared partial correlation between M and Y variables with the influence of X removed.

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Solution: The effect size of E-SAC on FBI, while controlling for X is equivalent to $r^2XMY - r^2XY$ = 0.81-0.75=0.06

Thus, the mediator has a small effect on FBI.

b. The R^2 measures the size of the mediated effect in the model (E-SAC)

Solution:

$r^2MY - (r^2XMY - r^2XY)$

Where,

r^2XY is the R^2 for the model containing X and Y only

r^2MY is the R^2 for the model containing M and Y only

r^2XMY is the R^2 for the model containing all X, M and Y

$r^2MY - (r^2XMY - r^2XY)$ = 0.74-(0.81-0.75)=0.68

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Thus, based on Cohen (1988), the mediated effect of (E-SAC) on the relationship between SQ and FBI is large.

4.6 Chapter Summary

This chapter discusses the data analysis and results of the Structural Equation Modeling (SEM) procedure. Overall, 381 usable responses were received and used in the data analysis. Before proceeding to SEM analysis, Exploratory Data Analysis (EDA) was performed to screen the problems in the data set, including missing values, non-normal distribution, outliers and multicollinearity. The EDA results revealed that the data are normally distributed and free from the issues of missing values, outliers and multicollinearity. This research employed the SEM technique to test the direct and indirect relationships among the variables assessing PIS'

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experiences in Malaysian research universities, namely SPV, SV, SQ, E-SAC and FBI. In this research, SEM analysis was divided into two main parts of analysis namely, CFA measurement model and structural model.

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The measurement model analysis was performed to determine the relationships between response items (indicators) and their underlying latent variables. The pooled measurement model analysis was performed using the Confirmatory Factor Analysis (CFA) estimation process to simultaneously assess the unidimensionality, validity and reliability. The result indicated that all the investigated latent constructs achieved unidimensionality, validity and reliability. The structural model analysis was performed to tests the direct and indirect research hypotheses. The indirect research hypotheses were tested using the mediation analysis. The findings revealed that the PIS' cognitive variables, including SPV, SV and SQ, lead to E-SAC, which, in turn affects their FBI. Thus, this research demonstrated that E-SAC mediates the relationships between the customers' cognitive levels (SPV, SV and SQ) and FBI.

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CHAPTER 5

DISCUSSION AND CONCLUSION

The specific objective of this research was to examine the direct and indirect relationships among variables measuring PIS' experiences with the service delivery in Malaysian research universities. This chapter begins by summarizing the purpose of this research. Next, the research findings are discussed from the theoretical and practical perspectives. In addition, the research limitations, recommendations for future research, and conclusions are also addressed in this chapter. Therefore, this chapter comprises four sections, including a brief summary of the research, the discussion of the research findings, a conclusion and research implications, and research limitations and direction for future research.

5.1 Brief Summary of the Research

This research focuses on postgraduate international students' experiences with service delivery at Malaysian research universities. The international students are viewed as the primary customers of higher education. It is important for universities to attract and retain international students' to compete in global market and enhance

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university ranking. Therefore, understanding the concept of customer experience in higher education should become a crucial agenda for the researchers and practitioners. In previous literature, the researchers affirmed that the concept of customer experience involves three phases of individual interactions, namely cognitive, affective and behavioral. The cognitive-affective-behavioral model is often used to explain the causal sequence of customer experience phases. However, this model still lacks theoretical foundation to specify the relevant variables that represent each phase of customer experience as well as their interrelationships. Therefore, further investigation that would provide a more systematic view of customer experience is urgently needed.

This research had two main objectives. First, the general objective of this research is to develop an integrative of postgraduate international students' experience with higher education service delivery. The model was developed by integrating the theories and knowledge across multiple research areas. The model illustrates that each phase of customer experience is characterized by relevant variables, namely SPV, SV and SQ (cognitive phase), E-SAC (affective phase), and FBI (behavioral phase). Second, the specific objective of this research was to determine the direct and indirect relationships among customer experience variables. The relationships among the variables were determined simultaneously in one model using the structural equation modeling (SEM) procedure.

This research was conducted at Malaysian research universities. An online survey was employed to gather the data from postgraduate international students (PIS) at Malaysian research universities. The data collection took place from second week of

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December 2013 until the end of January 2014. Overall, 381 completed online questionnaires were received and proceeded to the data analysis stage. The structural equation modeling (SEM) using AMOS was performed to test the relationships among customer experience variables. In this research, SEM was applied to assess the proposed model. The model fit and appropriateness were assessed in two steps. First, the measurement model analysis was performed to determine the relationships between response items (indicators) and their underlying latent variables. In addition, the measurement model analysis was performed to determine the unidimensionality, reliability and validity of the scales. Second, the structural model analysis was performed to test the research hypotheses. The following sub-sections offer a comprehensive discussion of the findings of the data analysis.

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5.2 Discussion of Research Findings

This sub-section discusses the research findings of measurement model analysis and structural model analysis. The measurement model was conducted to assess the unidimensionality, reliability and validity of the scales of the customer experience variables. Next, the structural model was conducted to test the proposed hypotheses to support the research objectives.

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5.2.1 The Findings of Measurement Model

The measurement model analysis was performed to assess the undimensionality, validity and reliability of the constructs. In this research, the second-order factor model was performed individually for SPV and SQ to confirm that the theorized constructs load on to certain number of underlying latent factors. The CFA was performed to validate the measurement model. In this research, SPV was

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operationalized using SERPVAL scale (Lages & Fernandes, 2005), which consists of 12 items loading on three underlying sub-constructs, namely service values to peaceful life (SVPL: 4 items); service values to social recognition (SVSR: 5 items); and service values to social integration (SVSI: 3 items). The estimation results for the first-order SPV model showed that SPV1 item had low factor loading and had dropped from the model. SPV1 measured the SVPL sub-construct, indicating that the educational service received by the PIS at the present university allows them to achieve tranquility. After omitting SPV1 item and re-specifying the model, the first-order model with three sub-constructs had the best fit indices (χ^2=107.230, χ^2/df =2.615, TLI=0.955, CFI=0.967, and RMSEA=0.065). In addition, it is important to note that the SVSI items had the highest factor loading. This result indicates that PIS should integrate more in the community with which they are involved. The university should facilitate social integration of international students by building better and stronger social relationships with them. In addition to the first-order model analysis, the second-order model also fit the data well (χ^2=134.096, χ^2/df=3.193, TLI=0.939, CFI=0.954, and RMSEA=0.079). Although negative error variance emerged, the results of this improper solution demonstrated that the fit indices achieved the required levels. The probability values of the second-order model indicated that SPV has a significant effect on all sub-constructs. Thus, the second model proposed in this research supported the three sub-constructs of SERPVAL scale (Durvasula, Lysonski, & Madhavi, 2011; Lages & Fernandes, 2005). This means that the PIS evaluate higher education service accordingly to three basic sub-constructs of personal values.

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In this research, HedPERF scale was adopted to operationalize SQ within higher education context from students' point of view (Abdullah, 2005, 2006). HedPERF consists of five sub-constructs measured by 41 items. The sub-constructs include academic aspects (SQA: 9 items), reputation (SQR: 10 items), programs issues (SQPI: 2 items), non academic aspects (SQNA: 12 items), and access (SQACC: 8 items). The results of CFA for the first-order model demonstrated that the factor loadings on all items were above 0.60. However, two fit indices still did not achieve the required levels (TLI=0.892, CFI=0.899). Hence, the second-order factor model was analyzed (Byrne, 2010; Zainudin, 2012). In this research, the information produced by MI and standardized residual covariance matrix has been identified to enhance the fit indices (Byrne, 2010). Ten pairs of redundant items were detected from MI information. As a solution, two correlated errors were set as 'free parameter estimates'. The re-specified model had better fit indices (χ^2=1653.132, χ^2/df=2.164, TLI=0.907, CFI=0.913, and RMSEA=0.055). The standardized residual covariance matrix revealed that seven items (SQ10, SQ 35, SQ25, SQ29, SQ31, and SQ1) had standardized residual values greater than 2.58 in absolute value and thus had to be deleted (Byrne, 2010). After omitting aforementioned items, the model fit indices improved such that χ^2 =1052.742, χ^2/df =2.040, TLI=0.927, CFI=0.933, and RMSEA=0.052. In addition, SQR sub-construct had the highest factor loading (0.91). This indicates that the reputation (SQR) item is the most important attribute for service quality evaluation among postgraduate international students. To sum up, the probability values indicated that the main construct (SQ) has a significant effect on all sub-constructs. The PIS evaluates the SQ in higher education based on six sub-constructs, namely academic aspects (SQA), reputation (SQR), programs issues (SQPI), non-academic aspects (SQNA) and access (SQACC). The results supported

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that HedPERF is a higher-order model consisting of six sub-constructs (Abdullah, 2005, 2006).

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In this research, the unidimensionality, reliability and validity of customer experience variables were simultaneously assessed through the pooled measurement model (Zainudin, 2012). To obtain good model fit before performing the structural analysis, the issue of misspecification had to be addressed. The information produced by MI indicated that three pairs of E-SAC items were redundant. Thus, two correlated errors were set as 'free parameter estimates'. As a result, the fit indices for pooled measurement model improved and achieved the required levels (χ^2 =2925.800, χ^2 / df =1.800, TLI=0.907, CFI=0.912 and RMSEA=0.046). The results of standardized covariance matrix indicated that the pooled measurement model is correctly specified with all standardized residuals values being less than 2.58 in absolute value. In this research, unidimensionality of the latent constructs has been demonstrated through the deletion item with low factor loadings. All latent constructs in this research have achieved undimensionality, with all factor loading greater than 0.60. Three types of validity tests were performed in order to measure the validity of the latent constructs. The validity tests included the convergent validity, construct validity and discriminant validity. The convergent validity was assessed through Average Variance Extracted (AVE). All latent constructs investigated in this research achieved the convergent validity. This means that items measuring a particular latent construct have a high percentage of shared common variance (AVE>0.50). The construct validity is achieved when the model fit indices met the required levels. All fit indices for the measurement model achieved the required levels, as follows CFI > 0.90, TLI > 0.90, RMSEA < 0.08, and the ratio of

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χ^2 / df > 5.0. Therefore, all latent constructs in this research measured the customer experience in higher education. The discriminant validity was confirmed by MI and the correlation among exogenous (independent) constructs. MI detected the redundant items in the latent constructs. All redundant items were set as 'free parameter estimates'. Additionally, the correlations among exogenous (independent) constructs were smaller than 0.90 (Hair *et al.*, 2010). Thus, all latent constructs investigated in this research achieved the discriminant validity. This indicates that the indicators or measured variables have higher association with their respective constructs compared to other construct in a given model. In this research, the internal reliability and construct reliability (CR) were assessed. The internal reliability is achieved when the Cronbach's alpha value for the construct is higher than 0.70. All latent constructs achieved internal reliability. CR assesses how well the measurement model measures the intended latent construct. The composite reliability of all construct was achieved, with CR values greater than 0.60.

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5.2.2 The Findings of Structural Model

The general objective of this research was to develop an integrative model of postgraduate international students' service experience in Malaysian research universities. The results of structural model demonstrated that fit indices achieved the required level (χ^2 =2931.103, χ^2/df =1.803, TLI=0.907, CFI=0.912, and RMSEA=0.046). This suggests that the customer experience model comprises relevant variables that represent three phases of customer interaction, including cognitive, affective and behavioral. The cognitive phase is represented by three relevant variables, including Service Personal Values (SPV), Service Value (SV) and Service Quality (SQ). The affective phase is represented by Emotional Satisfaction

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(E-SAC), and behavioral phase is represented by Favorable Behavioral Intentions (FBI). The model developed also has strongly supported by the theory and model, including Cognitive-Affective-Behavioral Model (Bagozzi, 1992; Oliver, 1997), Means-End Chain (MEC) Theory (Lages & Fernandes, 2005; Zeithaml, 1988), Expectation-Disconfirmation Paradigm (EDP) (Oliver, 1980), Value-Percept Disparity Theory (Wesbrook & Reilly, 1983) and Fishbein Model (Azjen & Fishbein, 1980).

The specific objective of this research was to test the causal relationships among the customer experience variables, including SPV, SV, SQ, E-SAC and FBI. The direct hypotheses were simultaneously tested through structural analysis. The regressions weight demonstrated that all direct hypotheses are supported, as follows:

- ***H1: SPV has a significant effect on E-SAC.*** This hypothesis was supported at $p<0.05$.
- ***H2: SV has a significant effect on E-SAC.*** This hypothesis was supported at $p<0.05$.
- ***H3: SQ has a significant effect on E-SAC.*** This hypothesis was supported at $p<0.001$.
- ***H4: E-SAC has a significant effect on FBI.*** This hypothesis was supported at $p<0.001$.
- ***H5: SPV has a significant effect on FBI.*** This hypothesis was supported at $p<0.05$.
- ***H6: SV has a significant effect on FBI.*** This hypothesis was supported at $p<0.05$.

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- ***H7: SQ has a significant effect on FBI.*** This hypothesis was supported at $p<0.001$.

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The PIS' evaluated the service experience at three levels of abstraction, namely SPV, SV and SQ. The results of structural model revealed that PIS' cognitive levels (SPV, SV, and SQ) have significant effect on FBI through E-SAC. The causal sequence of the relationships among the customer experience variables was supported by cognitive-affective-behavioral model (Bagozzi, 1992; Oliver, 1997). The results also demonstrated that among the customers' cognitive variables, SQ had the highest effect on E-SAC, and FBI (H3, H4), followed by SPV (H1, H5) and SV (H2, H6).

Service Quality (SQ) is the lowest level of customer cognitive level, and it has been extensively researched using the established scales, such as SERVQUAL (Parasuraman *et al.*, 1985, 1988, 1991), SERVPERF (Cronin & Taylor, 1992), Gronross model (1984) and HedPERF (Abdullah, 2005, 2006). The results revealed that the SQ has a significant effect on PIS' emotional satisfaction (β =0.716) and FBI (β =0.591). According to Wong (2014), customers who experience higher SQ tend to experience more positive emotions. In addition, the seminal research conducted by Zeithaml, Berry and Parasuraman (1996) asserted that improving SQ would increase customers' favorable behavioral intentions. Thus, the universities must deliver quality services that meet the international students' standards and demands. This research uncover the aspects of service quality on which the research universities need to concentrate, including the capability of academicians and non-academic in delivering the services, the responsibility of university to project a professional image, the ability of university offer wide range of reputable academic programs, and the ability to access the services. Furthermore, the data derived from

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the open-ended question indicated that the lecturers in Malaysian Research Universities should improve their communication with the international students as well as supervision of their research project. As suggested by Siang (2012), the university should provide the training for the academicians on service delivery skills in teaching, research, supervision and communication to fulfill the needs of international students.

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Among the customers' cognitive levels, SPV has rarely been explored due to its individuality and complexity compared to other levels (Lages & Fernandes, 2005; Thuy & Hau, 2010). Although the results demonstrated that the effect of SPV on E-SAC and FBI is lower than that of SQ, this research shown that SPV also plays a crucial role in evaluating the service delivery. The result of hypothesis testing shows that SPV has a significant effect on E-SAC (β =0.235). This indicates that the PIS who embraced SPV more were also more likely to have positive emotions towards service experienced. This is in line with Laverie *et al.* (1993) and Westbrook and Oliver (1991) who stated that the customers' personal values have strongly effect on their emotions. The international students who pursue their education in Malaysian research universities come from different countries and have different value systems. Consequently, the university should not focus only on SQ aspects to improve the service delivery, but also on the personal values of international students. As by Jalali, Islam and Ku Ariffin (2011) stated the Malaysian public universities must instill the elements of values, attitudes, and personalities in delivering the service to the international students. The university must concentrate on the personal values aspects, such as the ability of service delivery allow the students to achieve peaceful in life, gain and achieve more respect from others. In addition, this research showed

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that 58% of international students who study at Malaysian research universities come from Middle East countries that are currently involved in civil war. The data derived from the open-ended question indicates that this group of international students believed that the educational services offered at Malaysian universities would help them achieve more family security, harmony and stability in life, and pleasure in life.

Durgee (1996) affirmed that the best strategy to retain the customers is to understand their personal values systems. The previous studies have asserted that the personal values lead to post purchase behavior (Carlson & Kacmar, 2000; Corfman, Lehmann, & Narayan, 1991; McCarty & Shrum, 1993). However, the results of hypothesis testing revealed negative relationship between SPV and FBI (β =-0.172) which contradicts the previous studies (Durvasula, Lynsonki, & Madhavi, 2011; Linh & Thuy, 2011; Marandi, Little, & Sekhon, 2006). This result indicated that the PIS who embraced higher personal values had lower intentions to perform favorable behavioral intentions. This research involved the international students who might have a high demand with service experience as compared to local students (Yee, Hazlin, & Moktar, 2013). In addition, Rasli, Shekarchizadeh and Iqbal (2012) stated that the adjustment problems in terms of culture, values, and academic settings are the biggest challenges for the international students at Malaysian public universities, which might influence their behavior. The data derived from the open-ended question demonstrated that the postgraduate international students feel that the present university still does not allow them to gain the respect from local community. Therefore, the university needs to be more proactive in promoting the elements of service personal values to the international students.

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The results of the hypotheses testing also indicated that SV has a positive and significant effect on E-SAC (β =0.162), and FBI (0.168), which consistent with Choi *et al.* (2004) and Lam *et al.* (2004) findings. Although the effect size is small compared to others customers' cognitive levels, SV also played a crucial role in assisting the service provider in higher education to ensure that international students have positive experience. SV is defined as the trade-off between the benefits and scarifies as a result from the use of services (Cronin *et al.*, 1997; Zeithaml, 1988). The service providers at Malaysian research universities should also consider the elements of SV in delivering the services, such as the ability to offer the service at a reasonable price that would worth the time and effort.

The customer satisfaction has been defined as a cognitive construct, and it seems that emotional construct has been largely ignored (Stauss & Neuhaus, 1997). This research evidenced that emotional construct (E-SAC) has become a crucial indicator in evaluating the service experience. Moreover, the result has also shown that investigating E-SAC has distinguished the concept of service quality and customer satisfaction (Westbrook & Reilly, 1983). The previous research has postulated that the customer emotions affect their behavior, including loyalty and word-of-mouth communications (Derbaix & Vanhamme, 2003; Westbrook, 1987; White & Yu, 2005). The result of hypothesis testing indicates that E-SAC has a positive and significant effect on FBI (β =0.448). This suggests that the PIS' positive emotions lead to their favorable behavioral intentions. This would increase the students' willingness to say positive things about the service provided, recommend the present university to others, and remain loyal to the university. Therefore, the service providers at Malaysian research universities should focus on the international

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students' emotions, such as the extent to which they feel happy with the service delivery experience.

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In addition to the direct relationships, this research also examined the indirect relationships. The role of E-SAC as a mediating variable that could enrich the relationships between the customers' cognitive levels (SPV, SV and SQ) and FBI has rarely been investigated. The following discusses the results of the indirect hypotheses testing.

- ***H8: ESAC mediates the relationship between SPV and FBI.*** This hypothesis was supported, as the results indicated a full mediation with a large effect size (0.46).
- ***H9: ESAC mediates the relationship between SV and FBI.*** This hypothesis was supported in that the results revealed a partial mediation with large effect size (0.56).

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- ***H10: ESAC mediates the relationship between SQ and FBI.*** This hypothesis was supported in that the results indicated partial mediation with large effect (0.68)

The empirical results of mediation testing revealed that the relationships between the customers' cognitive levels (SPV, SV and SQ) and FBI are explained through E-SAC. The previous research focused solely on the direct effect of the customers' cognitive levels on FBI, neglecting the mediating role of E-SAC. This research has shown that E-SAC fully mediates the relationship between SPV and FBI. On the other hand, E-SAC partially mediates the relationship between SV and FBI as well as the relationship between SQ and FBI. However, the mediation effect of SQ on FBI through E-SAC is larger compared to the mediation effect of SV on FBI through E-

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SAC. Although, limited research has been conducted on this topic, the previous studies have supported the mediating role of E-SAC in explaining the relationship between PIS' cognitive levels and FBI. For example, Thuy and Hau (2010) found that the customer satisfaction partially mediates the relationship between SPV and FBI. Therefore, E-SAC should be considered as a crucial indicator in evaluating the PIS' experience with service delivery at Malaysian research universities.

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5.3 Conclusion and Research Implications

This research extended the concept of customer experience with service delivery in higher education. This research viewed the postgraduate international students (PIS) as main customers of higher education. Recently, an issue of ensuring a positive service experience among postgraduate international students in Malaysian public universities has gained enormous attention. Therefore, there is a need to develop a comprehensive model to further understand the concept of customer experience with relevant variables in higher education context. Drawing on theoretical perspectives and knowledge in multiple research areas, an integrative model of customer experience was developed by specifying the related variables that involve three phases of customer interaction, namely SPV, SV and SQ (cognitive phase), E-SAC (affective phase), and FBI (behavioral phase). The reviews of the previous literature have revealed that the relationships among the customer experience, including SPV, SV, SQ, E-SAC and FBI are rarely investigated. This limitation has generated specific interest in examining the relationships among the customer experience variables through E-SAC as a mediating variable. The structural analysis supported all proposed hypotheses. This indicates that the PIS cognitive levels, including SPV, SV and SQ lead to E-SAC, which in turn drives their FBI. Furthermore, this research

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has also revealed the role of E-SAC as a mediating variable that further explains the relationships between the customers' cognitive levels (SPV, SV and SQ) and FBI.

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The research findings have several theoretical and practical implications. Theoretically, this research will be able enlarge the body of knowledge in service context by developing an integrative model of customer experience with relevant variables that involve three crucial phases of customer interaction, namely cognitive, affective and behavioral. In addition, this research simultaneously examined the relationships among customer experience variables, including SPV, SV, SQ, E-SAC and FBI using a powerful statistical technique. The findings of this study also fulfilled the important gaps in the previous literature related to customer experience in the service context. First, the concept of personal values (SPV) has been rarely investigated in the service context. This research has proven that SPV is a crucial cognitive variable that is able to be used to evaluate the usage of service based on the ultimate goals that customers wish to achieve in their life. Second, the conceptualization of SQ and customer satisfaction (CS) has been criticized because it is derived from the same theoretical standpoint, namely Expectancy-Disconfirmation Paradigm (EDP). This research evidenced that investigating the concept of emotional satisfaction (E-SAC) has distinguished SQ and CS. Consequently, it gives a new direction for researchers to understand the phenomenon of customer experience in the service context.

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For practical implication, the model developed provides guidelines for the service providers in Malaysian research universities on ways in which the variables in the higher education, including SPV, SV, SQ, E-SAC and FBI can be managed to ensure

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the positive experience among postgraduate international students. In 2014, Times Higher Education (THE) Worlds Reputation Rankings reported that Malaysian public universities failed to appear in top 100 lists. The report also stated that the crucial factor contributing to this situation is the low number of international students' enrolment. Therefore, the concept of customer experience can be implemented as a strategic tool to assist the service providers in Malaysian public universities to attract and retain the international students. Generally, Malaysian higher education has frequently used service quality and customer satisfaction to measure the international students' experience, neglecting the important role of service personal values and emotional satisfaction. This research suggests evidenced that understanding both concepts will help the service providers in Malaysian research universities build intimate relationships with international students.

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5.4 Research Limitations and Directions for Future Research

This research has some limitations that could possibly suggest directions for future research. This research was conducted in Malaysian public universities with research status (RU). Consequently, the generalizability of the data to represent the international students in Malaysian public higher education institutions is somehow limited. The customer experience model developed in this research could serve as a base to understand how the international students experienced the higher education service. Therefore, it is suggested that future research expands the scope of the research and larger sample size in other types of universities, including Focus and Comprehensive Universities. For example, Njie, Asmiran and Baki (2012) developed a model of service quality delivery (SQD) in Malaysian higher education. The research was carried out at a single university. The authors suggested that to improve

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the generalization, the scope of the research should be expanded to other types of universities.

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In this research, the international students were selected as the sample. However, past literature has claimed that different groups of students may experience the service in difference ways (Jalali, Islam, & Ku Ariifin, 2011; Mavondo, Tsarenko, & Gabbot, 2008; Ramsay, Barker, & Jones, 1999). Although all students undergo the same service processes, evidence suggests that the international students place higher demands on service experience compared to local students (Yee, Hazlin, & Moktar, 2013). Therefore, it is recommended to conduct a comparative research between the international students and local students to highlight similarities and differences between student groups. This research employed an online survey to gather the data. The online questionnaires were emailed to PIS selected from a list of email addresses. However, the greatest challenge of online questionnaire is to enhance the response rate. In this research, the follow-ups contact has been applied to increase the response rate. However, future studies could implement other strategies to enhance the online response rate, including providing the incentives to respondents and utilizing well-designed questionnaires (Dillman, 2000; Yammarino, Skinner, & Childers, 1991). The general objective of this research was to develop an integrative model of postgraduate international students' experience with service delivery at Malaysian research universities. Although the fit indices suggest a good fit of the model to the data, future research is encouraged to test the customer experience model across different service settings. To do so, researchers could to add items and factors applicable to the research settings. Continued refinement of customer

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experience scales supported in this research is certainly possible on further qualitative research.

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The specific objective of this research was to examine the relationships among customer experience variables namely, SPV, SV, SQ, E-SAC and FBI. In addition to direct relationships, this research also examined the role of E-SAC as mediating variable in explaining the path between the customers' cognitive levels (SPV, SV and SQ) and FBI. The past literature has claimed that the moderating variables, such as the country of origin, age and gender can provide valuable information to explain the relationships among customer experience variables (Li, Dong, & Chen, 2012; Thuy & Hau, 2010). The researchers, such as Schwartz and Rubel (2005) and Arambewela and Hall (2011) stated that the personal values variables might show different results across cultures and demographic groups. However, this research did not examine cross-cultural differences. Therefore, future research should investigate this particular issue. The current research involved the second-order measurement mode, namely SPV and SQ. These scales were validated through CFA measurement model using AMOS. The specific issue related to improper estimates (negative error variance) has been identified. Although these improper estimates did not appear as problematic in this study, future research should explore this issue intensely when investigating a higher-order level measurement model.

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Appendix A

Online Questionnaire

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An Integrative Model of Postgraduate International Students Experience in Higher Education Service Delivery

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This questionnaire has six sections. In section I, II, III, IV and V, you will be asked to rate the statements on Service Personal Values, Service Value, Service Quality, Emotional Satisfaction, and Favorable Behavioral Intentions. All decisions should be based on your experience with your higher education institution. Please answer all the questions in each section.

Feel free to be as open and honest as possible. Your response is anonymous and regarded strictly as confidential. The data collected is used only for academic purposes and only aggregate data will be used in the analysis.

Thank you for taking the time to complete the questionnaire. Your assistance in providing this information is very much appreciated. Should you have any additional concerns, please e-mail me at wansalmuni@gmail.com

* Required

Section I: Service Personal Values

Below is a list of statements seeking your cognitive level of agreement towards service personal values at the present university. Service personal values refer to assessment of the use of service based on the ultimate goals that customers wish to achieve in their lives. Please indicate how strongly you agree or disagree with the following statements:

1. **The educational service I receive from my present university allows me to achieve more tranquility.** *
   Mark only one oval.

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	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

2. **The educational service I receive from my present university allows me to achieve more family security.** *
   Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

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3. **The educational service I receive from my present university allows me to achieve more harmony and stability in life.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

4. **The educational service I receive from my present university allows me to achieve a more pleasurable life.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

5. **The educational service I receive from my present university allows me to achieve more respect from others.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

6. **The educational service I receive from my present university allows me to achieve the feeling that the world is more agreeable.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

7. **The educational service I receive from my present university allows me to achieve more social recognition.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree.	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

8. **The educational service I receive from my present university allows me to achieve more status.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

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9. **The educational service I receive from my present university allows me to achieve more stimulating and adventurous life.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

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10. **The educational service I receive from my present university allows me to achieve a higher integration in my group.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

11. **The educational service I receive from my present university allows me to achieve better relationships.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

12. **The educational service I receive from my present university allows me to achieve stronger relationships.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

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Section II: Service Value

Below is a list of statements which represent your cognitive level of agreement towards service value at the present university. Service value is defined as the result of a trade-off between benefits and sacrifices from the utility of the service. Please indicate how strongly you agree or disagree with the following statements:

13. **This university's services are reasonably priced.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

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14. **This university offers whatever I want in service.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

15. **The quality of service I received from this university is worth more than what I paid for.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

16. **The service I received from this university is worth the time and effort I have invested.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

Section III: Service Quality

Below is a list of statements seeking your cognitive level of agreement towards service quality at the present university. Service quality is defined as customer evaluation of the service delivery attributes in higher education. Please indicate how strongly you agree or disagree with the following statements:

17. **Academic staff have the knowledge to answer my questions relating to the course content.**
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

18. **Academic staff deal with me in a caring and courteous manner.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

19. **Academic staff are never too busy to respond to my request for assistance.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

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20. **When I have a problem, academic staff show a sincere interest in solving it.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

21. **Academic staff show positive attitude towards students.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

22. **Academic staff communicate well in the classroom.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

23. **Academic staff provide feedback about my progress.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

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24. **Academic staff allocates sufficient and convenient time for consultation.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

25. **Academic staff are highly educated and experience in their respective field.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

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26. **The university has a professional appearance/image.** *

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

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27. **The hostel facilities and equipment are adequate and necessary.** *

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

28. **Academic facilities are adequate and necessary.** *

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

29. **The university runs excellent quality programs.** *

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

30. **Recreational facilities are adequate and necessary.** *

Mark only one oval.

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	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

31. **Class sizes are kept to minimum to allow personal attention.** *

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

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32. **The university has an ideal location with excellent campus layout and appearance.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

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33. **The university offers highly reputable programs.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

34. **The university's graduates are easily employable.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

35. **Health services are adequate and necessary.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

36. **The university offers a wide range of programs with various specializations.** *
Mark only one oval.

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	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

37. **The university offers programs with flexible syllabus and structure.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

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38. **When I have a problem, administrative staff shows a sincere interest in solving it.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

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39. **Administrative staff provides caring and individual attention.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

40. **Inquiries/complaints are dealt with efficiently and promptly.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

41. **Administrative staff are never too busy to respond to a request for assistance.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

42. **Administration offices keep accurate and retrievable records.** *
Mark only one oval.

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	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

43. **When the staff promises to do something by a certain time, they do so.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

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44. **The opening hours of administrative offices are personally convenient for me.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

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45. **Administrative staff show positive work attitude towards students.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

46. **Administrative staff communicate well with students.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

47. **Administrative staff have good knowledge of the systems/procedures.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

48. **I feel secure and confident in my dealings with this university.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

49. **The university provides services within reasonable/expected time frame.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

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50. **Students are treated equally and with respect by the staff.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

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51. **Students are given fair amount of freedom.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

52. **The staff respects my confidentiality when I disclosed information to them.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

53. **The staff ensures that they are easily contacted by telephone.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

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54. **The university operates excellent counseling services.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

55. **The university encourages and promotes the setting up of student's union.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

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56. **The university values feedback from students to improve service performance.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

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57. **The university has a standardized and simple service delivery procedure.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

Section IV: Emotional Satisfaction

Below is a list of statements seeking your emotional level of agreement towards satisfaction at the present university. Emotional satisfaction is viewed as the customer pleasurable emotional responses of the experience provided by higher education services. Please indicate how strongly you agree or disagree with the following statements:

58. **The service experience at my present university makes me feel happy.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

59. **The service experience at my present university makes me feel hopeful.** *
Mark only one oval.

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	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

60. **The service experience at my present university makes me feel positive surprised.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

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61. **The service experience at my present university makes me feel pleasant.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

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62. **The service experience at my present university makes me feel contented.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

63. **The service experience at my present university makes me feel enjoyable.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

Section V: Favorable Behavioral Intentions

Below is a list of statements which represent your response of agreement towards the favorable behavioral intentions. Favorable behavioral intentions are defined as the customer willingness to behave the favorable behavior as a result from service experienced. Please indicate how strongly you agree or disagree with the following statements:

64. **I will say positive things about service provided in my present university.** *
Mark only one oval.

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	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

65. **I will recommend my present university to someone else.** *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

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66. I will stay with my present university if the fees increase. *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

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67. I will remain loyal with my present university. *
Mark only one oval.

	1	2	3	4	5	6	7	
Strongly Disagree	◯	◯	◯	◯	◯	◯	◯	Strongly Agree

Section VI: Demographic Profile

68. **Gender:** *
Mark only one oval.

- ◯ Male
- ◯ Female

69. **Age:** *
Mark only one oval.

- ◯ 20-25 years
- ◯ 26-30 years
- ◯ 31-35 years
- ◯ 36 years and above

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70. **Marital status:** *
Mark only one oval.

- ◯ Single
- ◯ Married

71. **Country of origin:** *

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72. **Country by geographical region:** *

Mark only one oval.

- Asia
- Middle East
- Africa
- Other: _____

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73. **Present University:** *

Mark only one oval.

- Universiti Malaya (UM)
- Universiti Sains Malaysia (USM)
- Universiti Kebangsaan Malaysia (UKM)
- Universiti Putra Malaysia (UPM)
- Universiti Teknologi Malaysia (UTM)

74. **Faculty/Division/Institute/Centre:** *

_____

75. **Current education level:** *

Mark only one oval.

- Master
- Doctoral

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76. **Semester in the present university:** *

Mark only one oval.

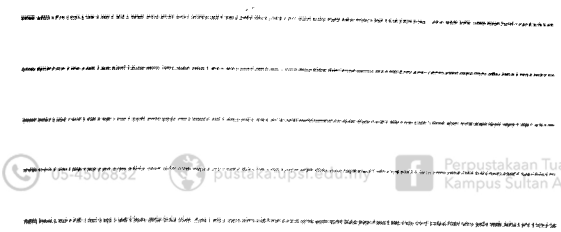
- 2nd semester
- 3rd semester
- 4th semester
- 5th semester
- 6th semester
- Over 6th semester

77. **Major program:** *

_____

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78. Please add any further/overall comments that you would like to make in the space below:



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Appendix B

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Missing Values Analysis

Univariate Statistics							
				Missing		No. of Extremes[a]	
	N	Mean	Std. Deviation	Count	Percent	Low	High
SPV1	381	5.2651	1.09090	0	.0	28	0
SPV2	381	5.0394	1.30425	0	.0	2	0
SPV3	381	5.3832	1.11692	0	.0	20	0
SPV4	381	5.3150	1.17227	0	.0	27	0
SPV5	381	5.5591	1.02331	0	.0	10	0
SPV6	381	5.2205	1.09241	0	.0	23	0
SPV7	381	5.5066	1.03267	0	.0	14	0
SPV8	381	5.4094	1.05647	0	.0	15	0
SPV9	381	5.4068	1.17646	0	.0	27	0
SPV10	381	5.3071	1.07247	0	.0	20	0
SPV11	381	5.3438	1.16298	0	.0	25	0
SPV12	381	5.3570	1.16693	0	.0	23	0
SV1	381	5.0367	1.26438	0	.0	0	0
SV2	381	4.8950	1.35705	0	.0	1	0
SV3	381	4.9869	1.38501	0	.0	0	0
SV4	381	5.2441	1.26106	0	.0	39	0
SQ1	381	5.2808	1.15502	0	.0	28	0
SQ2	381	5.4409	1.14469	0	.0	20	0
SQ3	381	5.2073	1.29230	0	.0	0	0
SQ4	381	5.3150	1.26720	0	.0	0	0
SQ5	381	5.5092	1.11593	0	.0	21	0
SQ6	381	5.4567	1.13617	0	.0	24	0
SQ7	381	5.4094	1.20101	0	.0	26	0
SQ8	381	5.3543	1.21305	0	.0	31	0
SQ9	381	5.3858	1.18353	0	.0	22	0
SQ10	381	5.5512	1.07146	0	.0	17	0
SQ11	381	5.0315	1.24353	0	.0	2	0
SQ12	381	5.5276	1.08210	0	.0	19	0
SQ13	381	5.4803	1.10632	0	.0	21	0
SQ14	381	5.2546	1.23363	0	.0	33	0
SQ15	381	5.3990	1.14405	0	.0	22	0
SQ16	381	5.5827	1.13166	0	.0	16	0
SQ17	381	5.4646	1.07700	0	.0	18	0
SQ18	381	5.2231	1.20529	0	.0	0	0
SQ19	381	5.4121	1.18355	0	.0	24	0
SQ20	381	5.5276	1.02207	0	.0	14	0
SQ21	381	5.4147	1.07419	0	.0	17	0
SQ22	381	5.2362	1.25734	0	.0	39	0
SQ23	381	5.1837	1.33292	0	.0	49	0
SQ24	381	5.1155	1.27002	0	.0	0	0
SQ25	381	5.1286	1.35404	0	.0	1	0
SQ26	381	5.2073	1.22541	0	.0	39	0
SQ27	381	5.0971	1.31330	0	.0	2	0
SQ28	381	5.3360	1.20852	0	.0	28	0
SQ29	381	5.2966	1.21989	0	.0	29	0

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SQ30	381	5.2205	1.24550	0	.0	31	0
SQ31	381	5.2520	1.18745	0	.0	26	0
SQ32	381	5.4016	1.15115	0	.0	24	0
SQ33	381	5.2861	1.14916	0	.0	28	0
SQ34	381	5.1732	1.24664	0	.0	2	0
SQ35	381	5.3281	1.10738	0	.0	23	0
SQ36	381	5.2992	1.11437	0	.0	22	0
SQ37	381	5.1916	1.22583	0	.0	0	0
SQ38	381	5.0735	1.27521	0	.0	1	0
SQ39	381	5.2073	1.16599	0	.0	0	0
SQ40	381	5.1942	1.18057	0	.0	1	0
SQ41	381	5.3176	1.21457	0	.0	29	0
ESac1	381	5.2257	1.11519	0	.0	27	0
ESac2	381	5.2677	1.12002	0	.0	30	0
ESac3	381	5.1785	1.14002	0	.0	0	0
ESac4	381	5.2493	1.17576	0	.0	32	0
ESac5	381	5.2572	1.16618	0	.0	28	0
ESac6	381	5.3307	1.25481	0	.0	0	0
FBI1	381	5.3963	1.10876	0	.0	26	0
FBI2	381	5.4409	1.22036	0	.0	24	0
FBI3	381	4.9816	1.43166	0	.0	3	0
FBI4	381	5.6194	1.22884	0	.0	6	0
Gender	381			0	.0		
Age	381			0	.0		
Marital	381			0	.0		
GeoRegion	381			0	.0		
University	381			0	.0		
EduLevel	381			0	.0		
Semester	381			0	.0		

a. Number of cases outside the range (Q1 - 1.5*IQR, Q3 + 1.5*IQR).

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Appendix C

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Assessment of Multivariate Normality Analysis

Variable	Skewness	c.r	Kurtosis	c.r
Service Personal Values				
SPV10	-0.467	-3.723	0.013	0.054
SPV11	-0.473	-3.773	-0.09	-0.357
SPV12	-0.523	-4.168	-0.179	-0.713
SPV5	-0.44	-3.507	-0.224	-0.892
SPV6	-0.408	-3.254	-0.063	-0.253
SPV7	-0.57	-4.545	0.315	1.257
SPV8	-0.405	-3.225	-0.206	-0.819
SPV9	-0.528	-4.211	-0.257	-1.023
SPV1	-0.405	-3.231	-0.216	-0.861
SPV2	-0.472	-3.761	-0.192	-0.765
SPV3	-0.602	-4.798	0.303	1.207
SPV4	-0.65	-5.179	0.255	1.017
Service Value				
SV4	-0.703	-5.602	0.076	0.302
SV3	-0.536	-4.27	-0.433	-1.725
SV2	-0.398	-3.169	-0.511	-2.036
SV1	-0.382	-3.044	-0.45	-1.792
Service Quality				
SQ19	-0.677	-5.392	0.213	0.848
SQ9	-0.618	-4.927	0.095	0.378
SQ20	-0.6	-4.783	0.22	0.877
SQ21	-0.499	-3.976	0.134	0.534
SQ18	-0.516	-4.11	-0.146	-0.581
SQ17	-0.56	-4.463	0.075	0.298
SQ16	-0.767	-6.115	0.514	2.049
SQ15	-0.611	-4.872	0.185	0.737
SQ14	-0.737	-5.872	0.403	1.606
SQ13	-0.703	-5.604	0.352	1.403
SQ12	-0.789	-6.284	0.607	2.42
SQ11	-0.734	-5.848	0.288	1.148
SQ10	-0.667	-5.312	0.266	1.062
SQ41	-0.502	-4	-0.185	-0.739
SQ40	-0.534	-4.255	0.111	0.443
SQ39	-0.518	-4.13	-0.023	-0.091
SQ38	-0.473	-3.771	-0.113	-0.45
SQ37	-0.661	-5.265	-0.003	-0.012

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SQ36	-0.62	-4.943	0.373	1.486
SQ35	-0.871	-6.944	1.104	4.399
SQ34	-0.763	-6.079	0.365	1.453
SQ22	-0.706	-5.628	0.078	0.309
SQ23	-0.679	-5.413	-0.088	-0.352
SQ24	-0.588	-4.684	-0.213	-0.849
SQ25	-0.597	-4.759	-0.25	-0.997
SQ26	-0.666	-5.31	0.086	0.341
SQ27	-0.696	-5.546	0.057	0.226
SQ28	-0.836	-6.66	0.47	1.874
SQ29	-0.738	-5.877	0.36	1.436
SQ30	-0.693	-5.521	0.245	0.974
SQ31	-0.553	-4.403	0.201	0.802
SQ32	-0.712	-5.676	0.315	1.254
SQ33	-0.616	-4.907	0.513	2.044
SQ1	-0.582	-4.641	-0.039	-0.155
SQ2	-0.54	-4.302	-0.064	-0.253
SQ3	-0.595	-4.74	-0.159	-0.635
SQ4	-0.591	-4.71	-0.159	-0.635
SQ5	-0.677	-5.397	0.344	1.372
SQ6	-0.712	-5.675	0.312	1.242
SQ7	-0.717	-5.714	0.234	0.932
SQ8	-0.685	-5.462	0.127	0.505
Emotional Satisfaction				
ESac6	-0.602	-4.797	-0.305	-1.217
ESac5	-0.68	-5.419	0.253	1.008
ESac4	-0.522	-4.158	-0.133	-0.53
ESac3	-0.609	-4.855	0.086	0.344
ESac2	-0.687	-5.472	0.228	0.908
ESac1	-0.556	-4.427	0.109	0.435
Favorable Behavior Intentions				
FBI4	-0.703	-5.6	-0.106	-0.422
FBI3	-0.447	-3.564	-0.507	-2.022
FBI2	-0.767	-6.115	0.439	1.75
FBI1	-0.689	-5.487	0.3	1.193

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Appendix D

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Checking for Outliers

Observation number	Mahalanobis d-squared	p1	p2	d-squared/df
41	149.5310	0.0000	0.0000	0.0886
60	145.6330	0.0000	0.0000	0.0863
8	143.5760	0.0000	0.0000	0.0851
113	140.4120	0.0000	0.0000	0.0832
132	138.9210	0.0000	0.0000	0.0823
193	138.0470	0.0000	0.0000	0.0818
62	137.9090	0.0000	0.0000	0.0817
195	137.2780	0.0000	0.0000	0.0814
5	130.7620	0.0000	0.0000	0.0775
69	130.7440	0.0000	0.0000	0.0775
68	127.6530	0.0000	0.0000	0.0757
95	124.6800	0.0000	0.0000	0.0739
139	122.9270	0.0000	0.0000	0.0729
1	121.8660	0.0000	0.0000	0.0722
168	118.7430	0.0000	0.0000	0.0704
122	113.9860	0.0000	0.0000	0.0676
120	113.4660	0.0000	0.0000	0.0673
38	112.6340	0.0000	0.0000	0.0668
29	112.5600	0.0000	0.0000	0.0667
327	112.3100	0.0000	0.0000	0.0666
99	111.6180	0.0000	0.0000	0.0662
212	111.0270	0.0000	0.0000	0.0658
262	108.1410	0.0000	0.0000	0.0641
177	106.9860	0.0000	0.0000	0.0634
345	106.7790	0.0000	0.0000	0.0633
76	106.5720	0.0000	0.0000	0.0632
210	106.3830	0.0000	0.0000	0.0631
50	106.3560	0.0000	0.0000	0.0630
3	105.0470	0.0000	0.0000	0.0623
85	104.2600	0.0000	0.0000	0.0618
328	103.5950	0.0000	0.0000	0.0614
42	103.3910	0.0000	0.0000	0.0613
273	101.8910	0.0010	0.0000	0.0604
71	101.4290	0.0010	0.0000	0.0601
213	100.9850	0.0010	0.0000	0.0599
107	99.6040	0.0010	0.0000	0.0590

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67	98.9610	0.0010	0.0000	0.0587
174	98.9510	0.0010	0.0000	0.0587
238	98.6280	0.0010	0.0000	0.0585
128	98.2310	0.0010	0.0000	0.0582
232	98.1640	0.0010	0.0000	0.0582
290	97.7110	0.0020	0.0000	0.0579
136	97.2470	0.0020	0.0000	0.0576
9	97.2320	0.0020	0.0000	0.0576
48	96.5990	0.0020	0.0000	0.0573
27	96.3170	0.0020	0.0000	0.0571
283	95.6800	0.0020	0.0000	0.0567
124	95.4350	0.0020	0.0000	0.0566
94	94.8750	0.0030	0.0000	0.0562
175	94.8360	0.0030	0.0000	0.0562
118	94.7230	0.0030	0.0000	0.0561
89	94.5870	0.0030	0.0000	0.0561
130	94.2640	0.0030	0.0000	0.0559
245	93.4290	0.0040	0.0000	0.0554
111	92.6640	0.0040	0.0000	0.0549
134	92.4880	0.0040	0.0000	0.0548
46	91.7090	0.0050	0.0000	0.0544
19	90.4990	0.0070	0.0000	0.0536
102	90.2990	0.0070	0.0000	0.0535
63	90.2740	0.0070	0.0000	0.0535
309	90.1930	0.0070	0.0000	0.0535
105	89.5410	0.0080	0.0000	0.0531
321	89.3730	0.0080	0.0000	0.0530
58	89.3260	0.0080	0.0000	0.0529
157	89.0680	0.0090	0.0000	0.0528
47	88.6510	0.0100	0.0000	0.0525
32	88.2570	0.0100	0.0000	0.0523
253	87.4420	0.0120	0.0000	0.0518
318	86.8340	0.0130	0.0000	0.0515
343	86.7500	0.0140	0.0000	0.0514
144	86.6620	0.0140	0.0000	0.0514
115	86.1400	0.0150	0.0000	0.0511
380	86.1320	0.0150	0.0000	0.0511
381	85.3300	0.0180	0.0000	0.0506
295	84.8760	0.0190	0.0000	0.0503
233	84.6960	0.0200	0.0000	0.0502
59	84.3980	0.0210	0.0000	0.0500

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53	84.3570	0.0210	0.0000	0.0500
14	84.2270	0.0210	0.0000	0.0499
127	84.1220	0.0220	0.0000	0.0499
87	83.7410	0.0230	0.0000	0.0496
271	83.6470	0.0240	0.0000	0.0496
36	83.4790	0.0240	0.0000	0.0495
137	83.1270	0.0260	0.0000	0.0493
142	82.9990	0.0260	0.0000	0.0492
342	82.4390	0.0290	0.0000	0.0489
341	82.2690	0.0300	0.0000	0.0488
131	81.6060	0.0330	0.0000	0.0484
207	81.5130	0.0340	0.0000	0.0483
51	81.3880	0.0340	0.0000	0.0482
263	80.9540	0.0370	0.0000	0.0480
82	80.5000	0.0400	0.0000	0.0477
28	79.4690	0.0470	0.0000	0.0471
160	79.3330	0.0480	0.0000	0.0470
135	78.4820	0.0550	0.0000	0.0465
92	78.2830	0.0570	0.0000	0.0464
84	78.2500	0.0570	0.0000	0.0464
355	77.4350	0.0640	0.0000	0.0459
101	77.3240	0.0650	0.0000	0.0458
7	77.1680	0.0670	0.0000	0.0457

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Appendix E

Standardized Residual Covariances (Service Quality)

	SQ19	SQ9	SQ20	SQ21	SQ18	SQ17	SQ16	SQ15	SQ14	SQ13	SQ12	SQ11	SQ10	SQ41	SQ40	SQ39	SQ38	SQ37	SQ36	SQ35	SQ34	SQ22	SQ23	SQ24	SQ25	SQ26	SQ27	SQ28	SQ29	SQ30	SQ31	SQ32	SQ33	SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7	SQ8
SQ19	0.000																																								
SQ9	0.114	0.000																																							
SQ20	2.095	2.413	0.000																																					
SQ21	-0.109	0.314	0.000	0.000																																				
SQ18	1.400	0.987	0.970	0.955	0.000																																			
SQ17	0.413	1.407	2.247	1.466	0.457	0.000																																		
SQ16	-0.392	1.012	0.183	0.409	-0.193	0.000	0.000																																	
SQ15	-1.019	1.308	0.775	0.960	0.115	-0.188	1.156	0.000																																
SQ14	0.240	-0.580	0.106	-0.336	-0.320	-0.743	0.745	0.035	0.000																															
SQ13	-0.694	0.949	1.732	1.307	-0.734	0.480	-1.051	-0.177	0.711	0.000																														
SQ12	-0.379	0.220	1.779	1.319	-0.771	0.559	1.355	-1.327	-0.470	1.007	0.000																													
SQ11	0.798	-0.695	-1.085	-0.735	-0.174	-1.576	-0.347	-0.396	0.655	-0.359	1.223	0.000																												
SQ10*	-1.016	4.383	2.380	0.711	-0.450	0.769	-0.187	0.383	-0.770	-0.232	0.883	0.121	0.000																											
SQ41	0.818	-0.819	-1.102	-0.137	0.405	-0.984	0.283	2.559	0.861	-0.723	-2.239	0.379	-1.537	0.000																										
SQ40	0.149	-1.929	-1.463	0.322	0.713	-1.015	0.144	1.347	1.111	-0.609	-1.828	0.401	-2.164	0.000	0.000																									
SQ39	0.093	-2.015	-0.615	0.422	1.419	-0.342	0.128	0.516	1.339	-0.312	-1.143	-1.037	-1.481	0.033	1.238	0.000																								
SQ38	0.549	-1.703	-0.647	-1.166	0.212	-2.366	-1.418	-0.288	0.330	-0.750	-1.403	0.688	-1.722	-0.195	-0.176	0.560	0.000																							
SQ37	-0.336	-2.561	-1.793	-1.566	-0.622	-1.265	0.092	0.250	0.451	-1.470	-1.518	0.196	-1.670	0.203	-0.253	-0.041	0.869	0.000																						
SQ36	0.814	-1.295	-1.010	-0.194	0.083	0.291	-0.148	0.092	0.536	-0.302	-1.692	0.199	0.240	0.275	-0.223	-0.969	-0.519	-0.131	0.000																					
SQ35*	0.656	-2.845	-0.364	-0.313	-0.015	-0.076	0.102	0.000	1.536	0.822	-0.994	-0.720	-0.149	-0.790	-0.170	0.307	-0.508	-0.213	0.324	0.178																				
SQ34	1.681	-1.392	-0.888	-0.769	0.684	-0.290	-0.874	-0.717	1.086	0.865	-0.175	-0.163	-1.276	-0.450	-0.683	-0.542	-0.102	-0.238	0.880	0.273	0.000																			
SQ22	0.554	-1.380	-1.685	-0.359	1.235	-1.332	-1.273	-0.736	-0.223	-0.157	-1.859	0.417	-0.865	0.758	1.371	-0.714	0.671	0.675	1.686	0.189	1.464	0.000																		
SQ23	0.057	-2.509	-1.625	-0.665	0.636	-1.464	-1.124	-0.400	-0.199	-0.905	-1.802	0.462	-1.243	1.364	0.936	-0.689	1.139	1.339	1.683	1.685	1.905	0.000	0.000																	
SQ24	0.304	-2.249	-1.892	-1.410	0.028	-1.275	-0.417	0.571	0.335	-0.380	-0.390	1.796	-1.042	1.692	1.370	-0.105	0.783	0.966	2.433	2.097	2.539	0.014	0.483	0.000																
SQ25*	0.750	-3.285	-1.519	-0.941	0.945	-1.557	-1.558	0.002	0.095	-0.792	-1.205	0.858	-1.645	1.486	0.782	-1.102	0.797	0.533	1.551	1.465	2.085	0.648	0.395	0.677	0.000															
SQ26	-0.324	-1.791	-1.410	-0.929	0.066	-1.446	-1.546	0.364	-0.280	-0.949	-2.136	0.047	-1.008	2.188	2.074	0.318	1.589	1.709	2.305	1.617	1.728	0.328	-0.082	0.426	0.021	0.000														
SQ27	0.490	-1.590	-2.331	-1.028	0.048	-1.740	0.088	0.121	-0.072	-1.220	-0.775	0.642	-2.081	1.671	1.645	0.070	1.475	1.069	1.086	1.131	2.331	-0.157	0.346	-0.143	-0.562	-0.189	0.000													
SQ28	-0.065	0.243	1.026	1.150	0.033	0.764	0.840	-0.052	0.905	0.800	0.493	0.394	1.566	1.814	1.657	1.087	1.147	1.694	2.126	2.007	1.968	-0.687	-0.769	-0.523	-0.977	0.708	0.374	0.000												
SQ29*	-0.513	-2.971	-1.709	-0.528	-0.620	-1.394	-1.706	-0.801	-1.102	-1.251	-2.163	-0.443	-1.708	0.714	0.774	-0.758	0.890	0.719	2.081	1.843	1.696	0.623	0.088	-0.315	0.524	-0.339	0.168	-0.004	0.000											
SQ30	0.145	-2.531	-1.978	-0.901	-1.348	-1.976	-1.313	0.516	-0.246	-0.760	-1.187	0.122	-2.035	1.145	2.168	0.183	1.036	1.743	1.514	1.244	2.327	-0.639	-0.020	-0.269	-0.488	-0.185	0.374	0.372	0.000	0.000										
SQ31*	0.904	-1.688	-2.144	-0.955	-0.355	-1.606	-1.033	-0.349	0.401	-0.015	-0.578	0.690	-1.563	1.609	2.167	0.344	1.477	2.018	3.415	2.262	2.293	-0.176	-0.095	-0.511	-0.625	-0.224	0.128	-0.028	0.309	1.347	0.000									
SQ32*	1.248	0.173	0.265	1.144	0.765	0.407	1.199	0.726	0.938	1.373	0.956	1.055	0.841	2.371	3.195	1.272	1.187	1.529	3.542	2.580	2.328	-0.358	-0.930	-0.889	-0.635	-0.363	0.100	1.468	-0.229	0.523	1.570	0.000								
SQ33	-0.411	-0.656	-0.798	-0.198	0.522	0.433	0.533	1.501	-1.002	-0.428	-0.070	0.288	0.630	2.187	2.352	0.805	1.475	1.622	2.538	1.821	2.569	-0.644	-0.636	-0.326	-0.142	-0.093	0.262	0.289	0.423	0.256	0.113	0.000	0.000							
SQ1*	0.283	3.075	1.942	0.846	0.655	2.122	1.312	1.006	-0.966	1.944	1.157	1.139	3.970	-0.752	-1.732	-1.941	-1.885	-1.609	0.193	-0.957	-1.192	-0.604	-1.167	-1.408	-1.326	-1.692	-0.965	0.303	-1.573	-1.682	-0.407	1.811	0.568	0.000						
SQ2	-0.906	-0.137	-0.585	-1.121	-1.060	-0.015	-0.768	-0.752	-2.389	0.023	-1.312	-1.788	2.005	-1.840	-1.899	-1.731	-1.926	-1.597	-0.228	0.198	-0.035	-0.256	-0.846	-1.493	-1.375	-1.025	-0.881	-0.714	-1.251	-1.517	-2.084	0.590	0.427	1.033	0.000					
SQ3	0.448	-1.191	-0.348	0.145	1.424	0.347	1.123	0.844	0.580	1.386	-0.664	-0.490	0.909	0.766	0.304	-0.625	-0.501	-0.722	0.768	1.135	1.263	0.977	0.977	0.677	0.925	-0.149	0.637	-0.588	0.319	0.338	0.346	1.764	1.660	-0.678	1.027	0.000				
SQ4	0.540	0.033	0.096	-0.193	0.958	0.687	-0.547	0.328	-0.872	0.042	-1.667	-0.856	0.692	0.386	-0.586	-0.774	0.131	-0.430	0.198	0.084	1.069	0.999	0.876	0.098	0.281	0.085	0.129	0.118	-0.372	-0.191	-0.251	0.808	1.404	-0.521	0.122	0.000	0.000			
SQ5	-0.324	-0.248	0.607	-0.165	-0.931	0.686	0.656	0.536	-0.881	0.325	-0.861	-0.717	2.469	-1.351	-1.157	-0.697	-0.484	-0.408	-0.489	0.554	0.070	-0.054	0.291	-0.540	-0.793	-0.566	-0.359	-0.286	-0.493	0.124	-2.149	0.522	0.948	-1.017	0.660	-0.217	0.276	0.000		
SQ6	-0.084	-0.068	0.648	1.132	0.706	0.886	1.417	1.155	-0.611	0.305	0.062	0.147	2.085	-0.206	0.723	1.242	1.054	0.807	0.777	1.492	1.118	0.309	0.893	0.386	0.186	-0.495	0.270	1.156	0.465	1.236	-0.014	1.484	0.471	0.277	-0.617	-0.690	-0.214	0.000	0.000	
SQ7	-0.066	-0.034	0.142	0.301	0.796	0.394	-0.682	0.909	-0.521	0.242	-0.129	0.746	1.706	-0.226	0.131	0.219	0.291	-0.084	0.072	0.723	1.074	-0.112	0.294	0.631	0.347	-0.599	0.174	0.172	0.066	-0.134	-0.799	0.051	0.653	-0.489	0.203	-0.778	-0.236	0.052	0.747	0.000
SQ8	0.931	-0.317	0.626	-0.034	0.546	0.234	0.910	1.292	0.085	0.052	0.532	1.603	2.525	1.021	0.512	0.203	1.267	0.390	0.861	1.055	1.198	0.258	0.776	1.544	1.395	0.952	0.624	-0.235	0.258	0.539	-0.043	0.539	1.998	-1.313	-0.820	0.896	0.205	0.258	-0.694	0.000	0.000

* deleted item

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Appendix F

Standardized Factor Loadings in Pooled Measurement Model

Item		Sub-Construct	Factor Loading	Item		Sub-construct	Factor Loading
SQPI	<---	Service Quality (SQ)	.771	ESac1	<---	Emotional_Satisfaction (E-SAC)	.834
SQA	<---	Service Quality (SQ)	.805	ESac2	<---	Emotional_Satisfaction (E-SAC)	.839
SQNA	<---	Service Quality (SQ)	.846	ESac3	<---	Emotional_Satisfaction (E-SAC)	.814
SQACC	<---	Service Quality (SQ)	.887	ESac4	<---	Emotional_Satisfaction (E-SAC)	.823
SQR	<---	Service Quality (SQ)	.936	ESac5	<---	Emotional_Satisfaction (E-SAC)	.857
SVPL	<---	Service Pesonal_Values (SPV)	.893	ESac6	<---	Emotional_Satisfaction (E-SAC)	.834
SVSR	<---	Service Pesonal_Values (SPV)	.964	FBI1	<---	Favorable Behavioral_Intentions (FBI)	.802
SVSI	<---	Service Pesonal_Values (SPV)	.876	FBI2	<---	Favorable Behavioral_Intentions (FBI)	.834
SV1	<---	Service Value_(SV)	.650	FBI3	<---	Favorable Behavioral_Intentions (FBI)	.623
SV2	<---	Service Value_(SV)	.767	FBI4	<---	Favorable Behavioral_Intentions (FBI)	.713
SV3	<---	Service Value_(SV)	.794	SQ11	<---	SQR	.645
SV4	<---	Service Value_(SV)	.773	SQ12	<---	SQR	.707
SQ9	<---	SQA	.610	SQ13	<---	SQR	.771
SQ8	<---	SQA	.715	SQ14	<---	SQR	.676
SQ7	<---	SQA	.733	SQ15	<---	SQR	.635
SQ6	<---	SQA	.671	SQ16	<---	SQR	.639
SQ5	<---	SQA	.803	SQ17	<---	SQR	.695
SQ4	<---	SQA	.794	SQ18	<---	SQR	.635
SQ3	<---	SQA	.729	SQ19	<---	SQR	.616
SQ2	<---	SQA	.752	SQ21	<---	SQPI	.869
SQ33	<---	SQNA	.704	SQ20	<---	SQPI	.744
SQ30	<---	SQNA	.738	SPV12	<---	SVSI	.815
SQ28	<---	SQNA	.678	SPV11	<---	SVSI	.816
SQ27	<---	SQNA	.775	SPV10	<---	SVSI	.705
SQ26	<---	SQNA	.814	SPV9	<---	SVSR	.716
SQ24	<---	SQNA	.860	SPV8	<---	SVSR	.690
SQ23	<---	SQNA	.849	SPV7	<---	SVSR	.678
SQ22	<---	SQNA	.775	SPV6	<---	SVSR	.692
SQ41	<---	SQACC	.786	SPV5	<---	SVSR	.628
SQ40	<---	SQACC	.739	SPV2	<---	SVPL	.694
SQ39	<---	SQACC	.731	SPV3	<---	SVPL	.810
SQ38	<---	SQACC	.793	SPV4	<---	SVPL	.818

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SQ37	<---	SQACC	.751
SQ36	<---	SQACC	.712
SQ34	<---	SQACC	.717

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Appendix G

Standardized Residual Covariances (Pooled measurement model)

	SV4	SV3	SV2	SV1	FBI4	FBI3	FBI2	FBI1	ESac6	ESac5	ESac4	ESac3	ESac2	ESac1	SPV4	SPV3	SPV2	SPV5	SPV6	SPV7	SPV8	SPV9	SPV10	SPV11	SPV12	SQ20	SQ21	SQ19	SQ18	SQ17	SQ16	SQ15	SQ14	SQ13	SQ12	SQ11	SQ34	SQ36	SQ37	SQ38	SQ39	SQ40	SQ41	SQ22	SQ23	SQ24	SQ26	SQ27	SQ28	SQ30	SQ33	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7	SQ8	SQ9
SV4	0																																																												
SV3	0.771	0																																																													
SV2	-1.026	-0.003	0																																																											
SV1	-0.406	0.07	0.573	0																																																											
FBI4	0.536	-1.553	-0.013	1.005	0																																																									
FBI3	0.49	1.225	2.064	1.879	1.174	0																																																								
FBI2	-0.135	-1.322	0.335	0.224	0.12	-0.236	0																																																							
FBI1	0.358	-0.639	0.611	-0.973	-0.544	-1.382	0.524	0																																																						
ESac6	1.19	0.386	0.572	-0.055	0.013	0.84	-0.272	0.005	0																																																				
ESac5	0.495	0.118	-0.17	-0.592	0.133	-0.073	-0.446	-0.31	0.316	0																																																			
ESac4	-0.094	-0.72	-0.35	0.484	-0.685	-0.228	-0.936	0.394	-0.031	0.34	0																																																	
ESac3	0.356	-0.794	0.249	-0.176	-1.072	0.625	-0.303	-0.121	-0.405	0.47	0.057	0																																															
ESac2	-0.138	-0.857	0.453	-0.774	-0.758	-0.578	0.415	1.214	-0.062	-0.573	0.012	0.183	0.021																																														
ESac1	-0.022	-0.93	0.644	0.199	-0.504	-0.182	0.299	1.878	-0.39	-0.101	-0.032	0.062	0.185	0.036																																													
SPV4	0.041	0.383	0.645	-0.173	-0.558	1.267	0.682	0.381	1.152	-0.166	0.64	0.547	0.831	0.368	0																																													
SPV3	0.998	-0.385	1.5	0.218	0.153	0.738	1.25	0.78	0.592	0.284	0.406	0.423	1.275	0.88	-0.119	0																																												
SPV2	1.103	1.039	1.696	1.08	-1.336	1.184	0.503	0.372	1.521	0.204	0.749	-0.139	0.163	0.621	-0.075	0.31	0																																											
SPV5	-0.435	-1.648	-0.661	-1.197	-1.232	-2.008	-0.586	-2.06	-2.163	-2.492	-2.554	-2.19	-0.496	-0.978	0.014	-0.031	-1.338	0																																									
SPV6	-0.281	-1.059	0.58	-1.286	-1.876	0.893	-0.714	-1.667	-0.025	-1.117	-0.698	0	-0.434	-0.435	1.391	0.201	0.734	-0.229	0																																									
SPV7	0.302	-1.125	-0.418	-1.68	-0.68	-1.049	-0.07	-1.511	-1.222	-1.35	-1.363	-1.733	0.168	-1.2	-0.128	-0.044	-1.159	1.167	-0.886	0																																									
SPV8	0.252	-0.657	0.584	-1.078	0.975	-0.344	1.157	0.017	-0.077	-0.212	0.039	-1.002	0.589	0.128	-0.254	0.45	0.723	0.554	-0.35	1.533	0																																								
SPV9	0.978	0.277	1.367	1.287	0.331	1.119	-0.271	-0.23	0.24	-0.19	0.479	0.381	-0.053	0.262	0.501	-0.543	-0.227	0.377	0.182	-0.932	0.805	0																																								
SPV10	2.265	0.729	1.017	1.273	0.42	0.359	1.774	0.621	1.268	0.642	1.322	0.167	2.106	1.826	0.397	0.855	0.719	0.423	0.442	0.897	1.431	1.275	0																																							
SPV11	-0.064	-2.089	-0.502	-0.605	-0.226	0.277	-0.022	-0.266	0.349	-0.439	0.509	-0.389	0.682	0.932	-1.256	-1.553	-1.31	-0.43	0.369	0.213	-1.041	0.617	-0.273	0																																				
SPV12	0.333	-1.361	-0.643	-1.055	0.043	0.645	0.218	0.233	0.883	0.012	-0.206	-0.086	0.898	0.324	-0.531	-0.626	-1.549	0.622	0.705	0.978	-1.063	0.389	-1.064	0.739	0																																				
SQ20	-1.181	-1.379	-0.966	-1.22	0.439	-1.089	-0.036	-0.513	-0.777	-1.256	-1.63	-1.461	-0.27	-1.35	0.648	0.249	-0.338	1.578	-1.247	0.772	1.415	-0.473	1.437	-0.057	0.146	0																																				
SQ21	-0.619	-1.706	-0.374	-2.04	0.597	-0.391	-0.374	0.033	0.09	-1.081	-0.505	-1.057	0.85	-0.792	0.912	0.63	-0.338	-0.003	0.732	-0.604	0.529	-0.146	0.652	0.15	0.013	0	0																																				
SQ19	-0.054	0.927	0.45	0.034	-0.668	1.485	0.072	-0.216	0.612	-0.701	-0.534	-0.239	0.646	0.82	-1.055	-0.472	-0.125	-1.167	-0.412	0.894	-0.205	-1.312	0.666	0.126	0.248	2.332	-0.036	0																																				
SQ18	0.419	-0.387	0.118	-0.339	0.125	1.139	0.505	-0.078	0.562	0.224	-0.852	0.464	0.541	0.383	1.302	1.032	0.744	0.176	0.173	1.964	1.002	0.507	1.849	0.69	0.079	1.2	1.021	1.267	0																																				
SQ17	-0.512	-1.401	-0.796	-0.32	0.414	-1.141	0.692	-0.115	-0.077	-0.74	-0.684	-1.2	0.213	-1.05	-0.071	0.771	0.246	0.577	-0.705	1.292	1.101	0.048	2.391	0.858	-0.478	2.029	1.789	0.507	0.542	0																																				
SQ16	-0.227	-0.91	0.302	-0.202	0.048	-1.677	-0.082	0.343	-0.081	0.065	0.101	-0.87	0.013	-0.875	0.037	0.029	-0.566	-0.332	-1.656	0.274	0.22	-0.341	2.287	1.134	0.859	0.503	0.578	-0.424	-0.236	0	0																																				
SQ15	0.509	-0.511	0.376	-0.619	0.913	0.088	0.614	0.662	0.214	0.873	-0.292	0.14	0.592	-0.691	1.051	0.405	0.028	-0.563	-0.206	0.051	0.05	0.407	3.57	-0.261	-0.205	1.083	1.114	-1.665	0.058	-0.01	1.2	0																																			
SQ14	0.445	1.021	-1.351	0.35	-0.512	-0.263	0.025	0.073	1.024	-0.088	-1.04	-0.323	-0.779	0.39	0.013	0.288	1.171	-1.61	-0.947	-0.933	-0.06	0.733	1.403	-1.16	-0.278	0.332	-0.283	0.088	-0.484	-0.672	0.683	-0.041	0																																			
SQ13	-0.662	-0.157	0.961	-0.183	0.047	0.146	1.178	-0.529	0.479	-0.58	-0.454	-0.333	0.181	-0.67	1.158	0.381	0.562	-0.078	-0.242	-0.024	0.223	0.61	2.402	-0.572	-0.789	2.111	1.498	-0.741	-0.793	0.7	-0.995	-0.137	0.628	0																																			
SQ12	-0.141	-0.722	0.17	-0.381	0.074	-0.579	-0.466	0.191	-0.047	-1.071	-0.928	-1.112	0.709	-0.501	1.15	0.366	-0.752	1.924	-0.65	0.876	0.365	0.705	3.596	-0.035	0.607	2.225	1.602	-0.326	-0.728	0.877	1.516	-1.192	-0.441	1.382	0																																			
SQ11	2.49	1.935	2.163	1.334	0.446	2.398	0.201	0.368	1.452	0.511	-0.084	0.584	0.811	0.536	0.732	0.531	0.705	-0.937	1.014	-0.234	-0.31	1.931	1.848	1.49	1.596	-0.943	-0.76	0.576	-0.407	-1.59	0.482	-0.544	0.389	-0.526	1.165	0																																			
SQ34	0.234	-0.322	1.426	0.913	1.079	2.215	0.999	0.544	1.898	0.665	0.103	0.981	0.404	0.042	-0.126	0.217	0.719	-1.433	-0.355	-1.364	-1.49	-0.504	0.51	-0.989	-0.767	0.663	-0.714	1.438	0.43	-0.34	-1.032	-0.887	0.801	0.664	-0.265	-0.501	0																																			
SQ36	0.433	-0.681	0.63	0.604	1.97	1.868	0.862	0.567	1.325	0.327	0.364	0.289	0.311	0.652	0.663	1.376	1.639	-2.088	-0.041	-1.326	-1.248	-0.445	0.209	-1.75	-1.038	-0.766	-0.115	0.595	-0.147	0.264	-0.287	-0.06	0.276	-0.473	-1.757	-0.129	0.85	0																																			
SQ37	-0.774	-0.658	0.243	-0.687	-0.907	-0.676	-3.103	-1.162	0.237	0.233	-0.94	-0.363	0.235	0.188	-1.111	-0.608	-0.561	-1.86	-1.26	-1.478	-1.473	-1.441	0.929	-1.221	-1.067	-1.48	-1.418	-0.501	-0.8	-1.226	0.008	0.152	0.244	-1.574	-1.519	-0.076	-0.188	-0.053	0																																			
SQ38	-0.955	-0.759	0.896	0.035	-0.063	1.549	-1.963	-1.292	1.047	-0.385	0.344	-0.963	0.185	0.138	0.031	-0.026	0.022	-2.254	-1.127	-1.435	-1.252	-0.177	0.205	-0.534	0.224	0.325	-1.024	0.361	0.011	-2.34	-1.515	-0.401	0.101	-0.875	-1.418	0.388	-0.066	-0.455	1.029	0																																			
SQ39	-1.195	-0.661	0.789	-0.528	1.369	2.104	0.137	-0.99	0.607	-0.348	-0.885	-1.205	-0.597	-1.032	-0.541	0.416	0.236	-2.145	-1.703	-0.813	-0.546	-0.864	0.136	-0.744	-0.867	-0.33	0.542	-0.095	1.212	-0.334	0.019	0.393	1.105	-0.448	-1.173	-1.322	-0.529	-0.929	0.084	0.676	0																																			
SQ40	0.034	0.071	1.277	-1.334	1.342	2.003	0.039	0.043	1.248	1.262	-0.041	-0.088	0.221	-0.471	-0.056	0.134	-0.57	-2.563	-1.078	-0.572	-0.068	0.104	-0.18	-0.626	-0.013	-1.26	0.35	-0.119	0.425	-1.093	-0.047	1.138	0.79	-0.839	-1.944	0.024	-0.774	-0.287	-0.237	-0.176	1.217	0																																			
SQ41	0.943	0.738	1.246	-0.15	0.41	1.333	0.38	0.872	1.829	0.928	0.978	0.773	0.897	1.302	0.43	1.3	1.364	-2.392	-0.543	-0.766	0.512	1.01	1.655	0.017	0.324	-0.944	-0.172	0.476	0.048	-1.127	0.024	2.275	0.455	-1.029	-2.42	-0.074	-0.619	0.133	0.342	-0.275	-0.064	0	0																																			
SQ22	0.949	0.333	0.978	0.177	-0.752	-0.576	-0.685	0.542	1.119	0.555	0.144	0.491	0.57	0.385	0.792	0.83	1.453	-1.243	-0.433	-1.224	-0.931	-2.289	0.665	-0.92	-0.876	-1.282	-0.102	0.48	1.148	-3.194	-1.261	-0.738	-0.327	-0.153	-1.761	0.241	1.359	1.604	0.66	0.641	-0.758	1.233	0.552	0																																			
SQ23	0.556	-0.318	0.514	-1.243	-0.439	-0.221	-1.352	0.272	1.232	0.088	-0.11	0.301	0.475	0.166	0.736	0.272	1.265	-1.576	-0.826	-2.119	-1.396	-0.678	0.775	-0.842	-1.101	-1.393	-0.516	-0.131	0.432	-1.435	-1.221	-0.513	-0.428	-1.028	-1.815	0.16	1.669	1.474	1.195	0.975	-0.855	0.667	1.011	0	0																																			
SQ24	1.164	0.315	0.604	-0.39	0.036	1.374	-0.552	-1.23	1.386	0.522	0.329	0.098	0.26	0.349	0.265	0.451	1.211	-1.217	0.513	-1.164	-0.655	0.106	1.399	-0.651	-0.304	-1.654	-1.36	0.028	-0.263	-1.339	-0.605	0.365	0.009	-0.603	0.5	1.392	2.2	2.121	0.723	0.516	-0.368	0.958	1.23	0.16	0.467	0																																			
SQ26	0.508	-0.453	-0.148	-2.048	-0.321	0.127	-1.454	0.482	0.181	-0.219	-0.6	-0.723	0.317	-0.057	-0.173	0.026	1.423	-1.558	-0.401	-1.607	-0.841	-1.103	0.438	-1.78	-1.795	-1.175	-0.874	-0.579	-0.207	-1.502	-1.715	0.174	-0.581	-1.359	-2.232	-0.32	1.436	2.015	1.481	1.336	0.07	1.721	1.749	0.478	-0.088	0.289	0																																			
SQ27	0.287	-0.061	0.22	-0.853	0.293	0.333	-0.648	0.468	1.885	1.148	0.935	1.252	1.435	1.533	0.146	-0.498	0.353	-2.541	-0.829	-1.513	-1.815	-0.63	0.984	-0.279	-1.096	-2.125	-0.994	0.216	-0.23	-1.811	-0.096	-0.077	-0.379	-1.439	-0.887	0.271	2.408	0.797	0.834	1.213	-0.184	1.291	1.236	0.038	0.314	-0.298	-0.33	0																																			
SQ28	-0.222	-1.34	0.518	-0.662	0.936	0.754	-0.084	0.086	0.067	0.497	0.631	-0.754	1.465	0.676	0.078	0.385	1.428	-0.136	-0.515	-1.232	-0.912	-0.489	0.795	-1.88	-1.672	1.255	1.222	-0.265	-0.181	0.736	0.709	-0.193	0.662	0.635	0.428	0.099	1.722	1.901	1.521	0.955	0.893	1.379	1.464	-0.532	-0.745	-0.611	0.629	0.277	0																																			
SQ30	-0.407	-0.955	0.026	-0.014	0.351	0.252	-0.839	-0.33	1.513	0.025	-0.022	-0.375	0.393	0.393	-0.449	-0.483	-0.185	-0.713	-0.988	-1.066	-1.87	-0.923	0.169	-1.272	-1.123	-1.636	-0.728	-0.276	-1.488	-1.912	-1.362	0.451	-0.41	-0.828	-1.159	-0.108	2.156	1.369	1.657	0.933	0.072	1.965	0.874	-0.344	0.144	-0.226	-0.136	0.399	0.443	0																																			
SQ33	1.483	-0.626	-0.289	-0.225	1.334	1.038	0.497	1.323	2.119	2.202	1.275	1.611	1.485	1.446	0.344	0.724	0.675	-1.639	-0.962	-0.364	-0.283	1.217	1.938	0.059	-0.192	-0.543	-0.098	-0.593	0.324	0.431	0.422	1.376	-1.219	-0.564	-0.109	0.008	2.339	2.331	1.471	1.304	0.632	2.089	2.548	-0.448	-0.573	-0.378	-0.136	0.398	0.277	0.364	0																																		
SQ2	0.193	-0.806	-0.217	0.278	0.452	-2.152	0.305	-1.05	-2.103	-1.671	-1.584	-1.951	0.292	-0.917	-0.545	-0.016	-1.309	0.9	-1.659	0.441	-0.239	-0.515	1.233	-0.5	-1.322	-0.003	-0.666	-0.788	-0.948	0.332	-0.562	-0.561	-2.288	0.259	-1.007	-1.758	0.073	-0.099	-1.402	-1.736	-1.569	-1.818	-1.811	0.04	-0.646	-1.384	-0.914	-0.792	-0.598	-1.305	0.574	0																																		
SQ3	1.288	0.349	0.395	1.335	1.046	-0.223	0.698	-0.17	0.296	0.127	0.293	0.103	0.94	0.108	-0.002	1.503	0.079	-0.639	-0.218	0.784	1.349	1.023	2.559	1.276	0.543	0.045	0.403	0.4	1.364	0.497	1.154	0.861	0.504	1.413	-0.551	0.628	1.188	0.715	-0.715	-0.506	-0.645	0.202	0.6	1.079	0.974	0.585	0.231	0.542	-0.638	0.372	1.631	1.001	0																																		
SQ4	0.195	-0.633	0.293	0.101	0.252	-0.603	-0.36	-0.748	-0.423	-0.842	-0.015	-1.373	0.215	-0.431	0.023	0.422	-0.368	-0.554	-0.514	0.301	0.867	0.505	2.092	1.158	0.596	0.563	0.127	0.525	0.934	0.893	0.476	0.385	-0.912	0.116	-1.506	-0.967	1.03	0.382	-0.38	0.17	-0.755	-0.653	0.252	1.154	0.918	0.045	0.04	0.068	0.2	-0.134	1.413	0.351	0	0																																	
SQ5	-0.432	-1.339	-0.252	1.014	0.73	-1.974	0.916	-2.162	-0.925	-1.14	-0.822	-2.05	-0.568	-1.349	-0.527	0.761	-0.526	0.712	-1.21	0.031	0.966	0.93	1.836	0.567	-0.176	1.093	0.169	-0.33	-0.946	0.905	0.739	0.604	-0.911	0.412	-0.686	-0.819	0.041	-0.495	-0.347	-0.434	-0.667	-1.214	-1.47	0.109	0.345	-0.581	-0.6	-0.409	-0.294	0.232	0.967	0.704	-0.429	0.104	0																																	
SQ6	-0.665	-0.385	-0.402	0.774	0.4	-0.297	-0.515	-1.574	-0.427	-0.574	-1.308	-1.246	-0.154	-1.173	0.206	0.375	1.253	0.639	0.188	0.541	1.173	0.73	2.436	0.454	0.093	1.203	1.584	0.042	0.829	1.226	1.628	1.352	-0.496	0.543	0.367	0.193	1.238	0.935	1.013	1.259	1.417	0.82	-0.359	0.6	1.103	0.511	-0.372	0.373	1.281	1.458	0.623	-0.384	-0.687	-0.16	0	0																																	
SQ7	0.737	0.146	1.538	1.157	0.764	1.103	0.613	-0.395	-1.136	-0.645	-0.43	-0.489	0.125	-0.057	0.95	0.952	0.184	0.809	1.22	0.494	1.105	1.165	2.306	1.129	1.107	0.582	0.607	-0.076	0.778	0.59	-0.612	0.967	-0.555	0.317	0.031	0.644	1.042	0.061	-0.032	0.333	0.242	0.072	0.344	0.034	0.338	0.586	-0.635	0.122	0.359	-0.058	0.665	0.236	-0.98	-0.402	-0.103	0.805	0																																	
SQ8	1.467	0.381	0.999	0.293	0.881	0.185	0.284	-0.554	-0.019	-0.25	-0.211	-0.699	0.4	0.608	1.401	1.04	-0.272	-0.884	0.913	0.875	0.785	1.505	2.069	1.843	2.069	0.989	0.185	0.855	0.459	0.35	0.911	1.279	-0.019	0.044	0.614	1.433	1.094	0.779	0.365	1.228	0.153	0.381	0.825	0.376	0.739	1.416	0.837	0.498	-0.331	0.542	1.94	-0.885	0.594	-0.061	0.002	-0.728	0	0																																	
SQ9	0.496	-0.518	-0.544	1.184	0.139	-1.295	0.496	-0.426	-0.072	-0.281	0.314	-0.71	1.04	0.527	0.811	0.379	0.731	1.188	-0.201	1.382	1.684	-0.109	2.358	1.361	0.485	2.063	0.867	0.353	1.227	1.863	1.334	1.618	-0.342	1.323	0.641	-0.528	-1.155	-1.042	-2.247	-1.38	-1.73	-1.71	-0.632	-0.584	-2.184	-1.994	-1.543	-1.364	0.479	-2.212	-0.394	0.269	-1.011	0.279	0.011	0.325	0.201	-0.172	0

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Our Ref. : UPM/PUTRA/PHD/GM04372
Date : 28 November 2013

Head
International Division
Universiti Teknologi Malaysia
UTM Skudai
81310 Johor

Dear Sir/Madam,

DATA COLLECTION

WAN SALMUNI BIN WAN MUSTAFFA (GM04372)

This is to certify that the following student is pursuing Doctor of Philosophy (Management) at the Putra Business School (*formerly known as* Graduate School of Management), Universiti Putra Malaysia (UPM).

We sincerely hope that your organisation will allow the student to collect data and to interview some of your staff and other activities as agreed by you and your organisation.

We would like to assure you that all the information gathered by the student will be treated as confidential.

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Your assistance and co-operation in the above matter is highly appreciated.

Thank you.

Yours faithfully,

PARIMALA RAMAYAH
Academic Executive

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Date : 28 November 2013

Head
International Division
Universiti Putra Malaysia
43400 UPM Serdang
Selangor

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Our Ref. : UPM/PUTRA/PHD/GM04372
Date : 28 November 2013

Head
International Division
Universiti Sains Malaysia
11800 USM
Penang

Dear Sir/Madam,

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Our Ref. : UPM/PUTRA/PHD/GM04372
Date : 28 November 2013

Head
International Division
University of Malaya
50603 Kuala Lumpur

Dear Sir/Madam,

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Our Ref. : UPM/PUTRA/PHD/GM04372
Date : 28 November 2013

Head
International Division
Universiti Kebangsaan Malaysia
43600 UKM Bangi
Malaysia

Dear Sir/Madam,

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FAKULTI EKONOMI DAN PENGURUSAN
FACULTY OF ECONOMICS AND MANAGEMENT

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Kepada:
Encik Suhaime Bin Mahbar
Setiausaha Bahagian
Bahagian Perancangan Penyelidikan dan Penyelarasan Dasar
Aras 13, No. 2 Menara 2, Jalan P5/6 Persint 5
62200 W.P. Putrajaya.

Melalui:
Dr. Mass Hareeza Binti Ali@Hamid
(Penyelia penyelidikan)
Pensyarah Kanan
Jabatan Pengurusan dan Pemasaran
Fakulti Ekonomi dan Pengurusan
Universiti Putra Malaysia.

12 November 2013

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Tuan,

Memohon Maklumat Pelajar Siswazah Antarabangsa Yang Mendaftar Di Institut Pengajian Tinggi Awam (IPTA) Malaysia

Dengan segala hormatnya perkara tajuk di atas adalah di rujuk.

Saya Wan Salmuni Wan Mustaffa (No KPT: 800604065338) merupakan pelajar tahun ketiga di Putra Business School, Universiti Putra Malaysia. Untuk makluman pihak tuan, saya kini sedang menjalankan penyelidikan PhD yang berjudul 'An Integrative Model of Postgraduate International Students Experience in Higher Education Service Delivery'.

Bagi menjayakan penyelidikan ini, saya perlu mendapatkan beberapa maklumat berkaitan pelajar siswazah antarabangsa dari pihak tuan. Maklumat tersebut adalah:

i. Jumlah enrolmen pelajar siswazah antarabangsa (2013-terkini) mengikut negara asal di setiap universiti awam Malaysia.
ii. Senarai Email (Email address) pelajar siswazah antarabangsa mengikut negara asal di setiap universiti awam Malaysia (bagi enrolmen 2010 hingga kini).

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✉ : Fakulti Ekonomi Dan Pengurusan, Universiti Putra Malaysia, 43400 UPM Serdang, Selangor Darul Ehsan, Malaysia.
✆ : 603-8946 7609 / 10 / 11 🖷 : 603-8948 6188 : fep@econ.upm.edu.my

Untuk maklumat pihak tuan, senarai Email pelajar siswazah antarabangsa amat diperlukan dalam penyelidikan ini kerana borang soalselidik bakal diedarkan kepada pelajar berkenaan secara online (Email survey).

Maklumat yang bakal diperolehi hanya akan digunakan untuk tujuan penyelidikan sahaja. Diharap pihak tuan dapat meluluskan permohonan ini dan seterusnya membantu saya menjayakan penyelidikan ini.

Kerjasama dari pihak tuan saya dahului dengan ucapan terima kasih.

Sekian.

Yang Benar

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Calon PhD
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Disokong.

MASS HAREEZA ALI, Ph.D
Senior Lecturer
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43400 UPM, Serdang, Selangor DE, Malaysia

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CURRICULUM VITAE

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Education

2005 MSc. (Quality and Productivity Improvement) Universiti Kebangsaan Malaysia
2002 BBA (Hons.) Universiti Utara Malaysia

Research

The Structural Relationships among Service Quality, Emotional Satisfaction and Favorable Behavioral Intentions for Improvement of International Students' Experiences in Higher Education. Short-Term University Grant (RMC-UPSI). RM7500, 01-10-2015 to 1-10-2016. (Leader).

Exploring Structural Characteristics of Followership and Construction of a Predictive Measure for Improvement of Organizational Leadership. Fundamental IPTA (FRGS). RM53500, 15-12-2013 to 15-12-2015. (Member).

The Customer Satisfaction Measurement towards Service Quality at Malaysian Public Universities using Structural Equation Modeling (SEM). Short-Term University Grant (RMC-UPSI). - RM9000, 01-12-2010 to 30-11-2011. (Leader).

The Contextual Complexities and Strategies of Small School Leadership. Short-Term University Grant (RMC-UPSI). RM19390, 01-04-2008 to 31-03-2009. (Member).

Multi-Criteria Decision Making for Promoting Academic Staff at Malaysian Public Universities: Hierarchical Process Analysis (PHA) Techniques. Short-Term University Grant (RMC-UPSI). RM59298, 16-12-2005 to 15-12-2006. (Leader).

Publications

Wan Mustaffa, W. S., Ali@Hamid, M. H., Wai Bing, K., Abdul Rahman, R. & Ab Wahid, H. (2015). Adapting and validating the SERPVAL scale in higher education service experience. *International Business Education Journal,* 8(1), p. 65-78.

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Wan Mustaffa, W. S. & Ali@Hamid, M. H. (2014). *Customers' cognitive levels towards service evaluation: An empirical research in higher education.* Paper presented at the Fifth Asian Conference on the Social Sciences (ACSS), IAFOR, Japan.

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Ali@Hamid, M. H., Tukimin, N. & Wan Mustaffa, W. S. & (2014). The relationships among service personal values, service value and service quality in higher education service delivery. *Australian Journal of Basic and Applied Sciences, 8(23), Special 2014, p. 329-335.*

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Wan Mustaffa, W. S. & Ali@Hamid, M. H. (2013). *Investigating the semantic network of customers' cognitive levels in higher education service delivery.* Paper presented at the International Academic Conference. UiTM, Malaysia.

Wan Mustaffa, W. S., Ali@Hamid, M. H., Mohamed, Z. A. & Radam, A. (2013). *Developing a model of higher education service delivery experience.* Paper presented at the International Conference on Business and Information. Bali, Indonesia.

Wan Mustaffa, W. S. & Wai Bing, K. (2011). Customer satisfaction and service quality in higher education: Utilizing SERVQUAL model and structural equation modeling (SEM). *Management Research Journal. 1(1), p. 117-134.*

Wan Mustaffa, W. S. & Kamis, H. (2007). *Prioritizing the multi-criteria of academic staff performance in higher education Institutions to global standards.* Paper presented at the Asia Pacific Management Conference, Monash University, Australia.

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