A STUDY OF GRADUATE STUDENT SATISFACTION TOWARDS SERVICE QUALITY OF UNIVERSITIES IN THAILAND

By

Ashim Kayastha

A research paper submitted to the

School of Business and Technology of Webster University

In partial fulfillment of the requirement for the degree in

Masters in Business Administration

Webster University

April, 2011

Cha-am, Thailand

ACKNOWLEDGEMENTS

This research paper was prepared for the partial fulfillment of Masters in Business Administration program. It is a pleasure to thank to all those people who made this study possible. This study would not have been possible without the guidance of my advisor and also help from my friends.

I owe my deepest gratitude to my Advisor, Dr. Randall Shannon, for his invaluable suggestions, guidance and help throughout this study. It is an honor for me to complete this study under his guidance. He has made available his support in a number of ways by helping me in collecting surveys, providing guidance for the data analysis, editing and so on.

I am indebted to my many of my friends and participants for their valuable time and help in collecting the surveys.

Last, but not the least, I would like to show my gratitude to my parents, without their support it would not be possible to complete my Masters in Business Administration in Webster University.

EXECUTIVE SUMMARY

A STUDY OF GRADUATE STUDENT SATISFACTION TOWARDS SERVICE QUALITY OF UNIVERSITIES IN THAILAND

By

Ashim Kayastha

This study examines satisfaction of graduate students' among higher education in Thailand. The study focuses on a variety of service quality factors such as non-academic aspects, academic aspects, design, delivery and assessment, group size, program issues, reputation and access. These factors were adapted from the study by Firdaus (2005), "The development of HEdPERF: a new measuring instrument of service quality for higher education sector" and Afjal *et al.* (2009) "On student perspective of quality in higher education".

The study focused on finding the relationship between service quality variables and student satisfaction of graduate students among Universities in Thailand. This study also tries to answer an additional research question: does the level of satisfaction differ between the students who pay their tuition fee by themselves and those who have it paid by others? And, are there any differences in perception of satisfaction in terms of other demographic factors? Students' responses were measured through an adapted questionnaire on a 5-point Likert scale. Hard copy and online questionnaire were distributed among the graduate students studying in Thailand. Total number of sample collected was 303. The data was analyzed using SPSS.

The results showed there is significant relationship between the service quality variables. The results also showed that there was a difference in satisfaction level between the students who paid their own tuition fee and who have it paid by others. The students who paid their own fee had high expectation of service quality and were less satisfied than of the students whose fee were paid by others.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE

GENERALITIES OF THE STUDY

1.1 Introduction of the Study

In this world of cutthroat competition, an organization needs some competitive advantage to sustain. Customer satisfaction and loyalty could be considered as an important tool to maintain a competitive advantage. An organization should give a special attention to its service quality which can help its organization to differentiate itself from other organization, and results to long term competitive advantage (Moore, 1987). 'Delighting the customer' is the core message of the total quality approach (Owlia and Aspinwall, 1996).

A customer is the individual or organization that actually makes a purchase decision, while a consumer is the individual or organizational unit that uses or consumes a product (Stanton *et al.*, 1994).

In the higher education sector, it is difficult to manage the institutions from the marketing point of view because the concept of customer has not been clearly defined. "Unlike other service industries, which hold satisfaction as a goal in and of itself, colleges and universities typically perceive satisfaction as means to end. Higher education tends to care about student satisfaction because of its potential impact on student motivation, retention, recruitment efforts, and fundraising" (Schreiner, 2009, p.1).

"Even though satisfying the wants and needs of customers of is not a new organizational concept for business institutions, customer orientation has been underemphasized in

universities compare to profit-oriented organizations. Students are the "customers" of a university" (Huang, 2009, p.3). But Waugh (2002) suggested that viewing students as customers created some tensions in universities seem to be too aligned with business.

As per Seymour (1993), developing satisfied student should be a primary goal of higher education. Developing customer (student) satisfaction at universities level is crucial. If this is achieved, it will facilitate the strategic objectives of the university more effectively.

Several researches have been conducted on service quality delivery and student satisfaction in the university.

1.2 Universities in Thailand

A university is an institution of higher education and of research, which grants academic degrees at all levels (bachelor, master and doctor) in a variety of subjects (www.experiencefestival.com/a/University/id/2033074).

Thai higher education universities and colleges offer a total of 685 accredited international programs at undergraduate and graduate levels: 251 Bachelors Degree, 314 Masters Degree, 105 Doctorate Degree and 11 Graduate Diploma Degree programs (as of December 2010). There are international accredited university degree programs conducted in other languages than Thai at Thai universities such as Arabic, Chinese (Mandarin), English and German. The universities are in Bangkok, Chang-mai, KhonKaen and many other locations in Thailand. Degree programs in English cover a wide range of academic fields, such as accounting, architecture, arts, biotechnology, business administration (marketing, finance & banking, general management, hotels &

tourism, international business, and more majors at business schools and colleges), applied chemistry, economics, education, engineering (as well as nano, aerospace, automotive, manufacturing engineering), information technology, law, mass communications and journalism, medicine, music, nursing science, risk management, science and technology, and many more (http://studyinthailand.org/).

This is the categorized listing of universities in Thailand:

1) Public School

   a) Public University

   The public universities were formerly called government universities and fully supported by the government. Currently they are independent as government supported public universities. However, their staff may not be civil servants but faculty is.

   Public University is categorized into two:

- Thailand National Research University

   There are 9 universities under Thailand National Research University. Chaulalongkorn University is the oldest public school in Thailand.

- Public University

   Under Public University there are 22 universities.

b) Rajabhat University

There are 4o schools in the Rajabhat Universities system. The universities are aimed to provide higher education to regional provinces. They were formerly called Rajabhat Institutes and originally emerged as college of education.

c) Rajamangal University of Technology

There are 9 schools in the Rajmangala University of Technology system. It was formerly a polytechnic institute system and was renamed to Rajamangala Institute of Technology system before university status was granted.

2) Private School

There are 64 Private University in Thailand. Assumption University is the first international university. Bangkok University is the first and oldest private university. Webster University Thailand is an American accredited university and part of a global network on International campuses, spanning America, England, Austria, Switzerland, China and Thailand.

3) Intergovernmental School

The Asian Institute of Technology (AIT) is the only university under this category. AIT is an international institution for higher education in engineering, advanced technology, and management and planning. It "promotes technological change and sustainable development" in the Asia-Pacific region, through higher education, research and outreach.

4) Joint Schools

There are 2 schools under this category. They are:

- Joint Graduate School of Energy and Environment

- Thailand Graduate Institute of Science and Technology

5) Other institutions

There are seven institutions which fall under this category. They are:

1. Chulachomklao Royal Military Academy

2. Chulabhorn Research Institute

3. Boromarajonani College of Nursing

4. Sirindhorn College of Public Health

5. Royal Thai Navy Academy

6. SAE Institute Bangkok

7. Civil Aviation Training Center (CATC)

(Source: http://en.wikipedia.org/wiki/List_of_universities_in_Thailand)

1.3 Statement of the Problem

Every educational institution needs to understand its internal strength and weakness, and external opportunities and threats. In university of Thailand, graduate students come from different countries with different cultural backgrounds. Thus, their expectation and perception of satisfaction may differ. Universities in Thailand are not only competing with the local universities but also many other universities in Asia and also the world. Considering the whole world as a single market and every university as a competitor, one can say there is an intense competition. Student satisfaction plays a crucial role for the success of a university. As argued by Berry (1995), service is one of the important factors enhancing value, and can positively influence a college's success. The student perception about satisfaction can act as an essential tool to enhance the universities service quality.

This study examines "the relationship between the variables of service quality and student satisfaction among graduate students in Thailand".

1.4 Research Objectives

The purpose of this study was to identify the factors that contribute to graduate student satisfaction studying in universities in Thailand. The specific objectives of the research was to measure which service quality dimensions (non-academic aspects, academic aspects, design delivery and assessment, group size, program issues, reputation and access) are related to overall student satisfaction in Thailand.

1.5 Research Questions

This study was conducted to find out the relationship between five service quality variables developed by Firdaus (2005), other two service quality variables developed by Afjal *et al.* (2009) and overall student satisfaction of student studying in universities in Thailand. This study focuses on to measure the following things:

- Do these service quality variables influence satisfaction among students of the universities in Thailand?
- Do self payment and /or payment of others influence satisfaction?
- Are there any differences in perception of satisfaction in terms of other demographic factors?

1.6 Scope of the Study

The study focuses on the perception of student satisfaction towards the service quality delivered by their university. The survey was conducted in the universities in Thailand. The target group of this research was the graduate student who was currently studying in

Thailand. So, graduate students who are studying in universities of other countries are beyond the scope of this study.

1.7 Limitations of the Research

The limitations of the research are:

- It does not represent the whole population of the students studying in Thailand. Thus, the primary limitation is the scope and sample size.

- The research was conducted in Bangkok among the students in several universities, both public and private. Students participated from Webster University, AIT, Mahidol University, Chulalongkorn University, Assumption and Bangkok University. While this provides a wide mix of respondents, the results may not be generalized to represent all universities offering graduate programs.

- The research was conducted among students in the universities which were in and near Bangkok; therefore, the study may not be able to be generalized for other parts of Thailand.

- There may be other variables related to service quality which were not included in this study.

- The research was conducted exclusively in English. While this eliminated the need for translation of the survey questions, language may also be one of the limitations. However, as universities have students who are not Thai, this allowed for any potential student (customer) to be interviewed.

1.8 Significance of the Study

As there is a tough competition going on all over the world especially in the field of education, quality of service and student satisfaction plays a crucial role for success. This research is conducted to determine the service quality delivery and student satisfaction among graduate students studying in Thailand. The research and findings may benefit both the university and students. The findings of this study are related to students' satisfaction towards the services of the university, which can therefore serve as a guideline to develop the quality of service based on the seven dimensions including non-academic aspects, academic aspects, design, delivery, and assessment, group size, reputations, access, and program issues. This study will also help the university to know the level of student satisfaction and also which aspects are the most important. This research will also be important when the university is undergoing through new changes.

The findings of this research will also help the universities in Thailand to serve students more effectively in the future, and develop their quality of service to increase the satisfaction level of its students. These findings may also be useful to the students who want to join a Master's program in Thailand.

1.9 Definition of Terms

Service quality: the extent to which the service, the service process and the service organization can satisfy the expectations of the user (Kasper *et al.*, 1999).

Student satisfaction: student satisfaction is a short-term attitude, derived from the evaluation of the received education service (Elliot and Healy, 2001).

SERVQUAL: the questionnaire operationalizes service quality by comparing perception of service received with expectation, in terms of reliability, responsiveness, assurance, empathy, tangibles (Parasuraman *et al.* 1988).

HEdPERF: a questionnaire designed uniquely for evaluating the service quality of higher education, which operationalizes service quality into non-academic aspects, academic aspects, reputation, access and program issues (Firdaus, 2005).

Academic aspect: It includes the items that describe responsibilities of academic staff (instructor) (Firdaus, 2005).

Non-academic aspect: The aspects relates to the duties carried out by non-academic staff (Firdaus, 2005).

Access: it is the approachability, accessibility and ease of contact of both the academics and non-academics staffs (Firdaus, 2005).

Reputation: The professional image projected by the university (Fridaus, 2005).

Program issues: It includes the item related to program flexibility, offering wide rande of programs/ specialization, and quality program (Firdaus, 2005).

Design, delivery and assessment include course or syllabus design, class time, teaching methodology, and the procedure of evaluating and grading system of the students. (Afjal *et al.*, 2009).

Group size includes the class size, number of students enrolled in a class (Afjal *et al*., 2009).

This chapter discussed the background and objectives of this study, its significance, and its limitations. Chapter two will provide a literature review on the concept of service quality, instrument measuring service quality, concepts of student satisfaction and the relationship of service quality and student satisfaction in higher education institution.

CHAPTER TWO

LITERATURE REVIEW

This chapter talks about the concepts, past studies, and various literature related to service quality, student satisfaction and dimensions of service quality which would help to measure the service quality and student satisfaction in higher education.

2.1 Concept of Service Quality

2.1.1 Service

A service is the intangible equivalent of an economic good. Service provision is often economic activity where the buyer does not generally, except by exclusive contract, obtain exclusive ownership of the thing purchased (http://en.wikipedia.org/wiki/Service).

A contemporary definition provided by Kotler *et al.* (1996) "A service is an activity or benefit that one party can offer to another that is essentially intangible and does not result in the ownership of anything. Its production may or may not be tied to a physical product".

"Service is a critical driver of customer retention and profitable growth" (Query *et al.*, 2007, p.152).

2.1.2 Quality

"Quality has no specific meaning unless related to a specific function and/or object. Quality is a perceptual, conditional and somewhat subjective attribute" (www.wikipedia.org/wiki/Quality_business).

According to Drucker (1985), "Quality in a product or service is not what the supplier puts in. It is what the customer gets out and is willing to pay for".

A quality is a comparison between expectation and performance (Parasuraman *et al.*, 1985). As per Crosby (1979), "Quality is conformance to requirements".

2.1.3 Definition of Service Quality

The concept of service quality is linked to the concepts of perception and expectations. Service quality perceived by the customers is the result of comparing the expectations about the service they are going to receive and their perceptions of the company's actions (Parasuraman *et al*., 1988; Gronroos, 1994).

Kasper *et al*. (1999) defined service quality as the extent to which the service, the service process and the service organization can satisfy the expectations of the user.

Sasser *et al*. (1978), listed seven service attributes which they believe adequately embrace the concept of service quality. These include:

- Security- confidence as well as physical safety;
- Consistency- receiving the same treatment for each transaction;
- Attitude- politeness;
- Completeness- the availability of ancillary services;
- Condition- of facilities;
- Availability- spatial and temporal customer access to services;
- Training- of service providers;

(Citied in Kitchroen, 2004)

There is a considerable debate about the best way to define service quality in higher education (Becket &Brookes, 2006). According to Cheng and Tam (1997, p.23) "Education quality is a rather vague and controversial concept". There are many ways to define quality in higher education; it depends on stakeholders' commitment of quality and the overall culture of the university. Stakeholders include students, their parents, the local community, society, and the government (Harvey and Green, 1993). Service quality of the education is the exclusivity of experiences student engage in as part of their whole person development (Roland, 2008).

However, it is found "universities are increasingly finding themselves in environment that is conductive to understanding the role and importance of service quality" (Shank *et al.*, 1995).

2.1.2   The Determinants and Measuring Instruments of Service Quality

2.1.2.1 SERVQUAL

Parasuraman *et al.* (1985) suggested SERVQUAL as a determinants and measuring instrument of service quality. It is considered as a good starting point for providing more detail to a description of service quality. They defined "determinants of service quality as a measure of how well the service level delivered matches customer expectations". They designed SERVQUAL based on studies in America. They described ten determinants of service quality as reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding the customers and tangibles.

1. Reliability: It is the ability to perform the promised service dependably and accurately.

2. Responsiveness: It is the willingness and/ or readiness of employees to help customers and to provide prompt service, timeliness of service.

3. Competence: It is the possession of the required skills and knowledge to perform service.

4. Access: It is the ease of approachability and contact.

5. Courtesy: It refers to the politeness, respect, consideration, and friendliness shown to the customers by the contact personnel.

6. Communication: It is listening to the customers and informing them with language they understand.

7. Credibility: It includes trustworthiness, believability and honesty.

8. Security: It refers to the freedom from danger, risk, and doubt, which involves physical safety, financial security and confidentiality.

9. Understanding/ knowing the customer: This includes trying to understand the customer's needs and specific requirements, providing individualized attention and recognizing regular customer.

10. Tangibles: It is the state of facilitating good, physical condition of the buildings and the environment, appearance of physical facilities, tools and equipment used to provide the service.

Later, Parasuraman *et al.* (1988) reduced the ten attributes to five attributes. The model of changed SERVQUAL was reliability, responsiveness, assurance, empathy and tangibles.

1. Reliability: It is the ability to perform the promised service dependably and accurately.

2. Responsiveness: It is the willingness and/ or readiness of employees to help customers and to provide prompt service, timeliness of service.

3. Assurance: The knowledge and courtesy of employees and their ability to convey and confidence.

4. Empathy: The provision of caring, individualized attention to customers.

5. Tangibles: It is the state of facilitating good, physical condition of the buildings and the environment, appearance of physical facilities, tools and equipment used to provide the service.

    (Citied in Milne and McDonald, 1990)

Since the development of the SERVQUAL, it has received its share of criticism. The major criticisms of the instrument involve the length of the questionnaire, the validity of the five service quality dimension, and the predictive power of the instrument in regard to subsequent consumer purchase (Hoffman and Bateson, 2006).

Many authors have suggested that the dimension utilized by SERVQUAL lack generality (Carman, 1990; Mc Alexander *et al.*, 1994; Iwaarden & Wiele, 2002), that administering expectation items are unnecessary (Carman, 1990; Babakus & Boller, 1992). Cronin and Taylor (1992) denied the framework of SERVQUAL and proposed a new service quality measuring model "SERVPERF" which measured only the performance excluding expectations. They claimed their model SERVPERF performed better than any other measure of service quality. Teas (1993) in his paper "expectation, performance evaluation and consumers' perceptions of quality" has discussed the conceptual and operational difficulties of using the 'expectations minus performance' approach with a particular emphasis on expectations. He developed two alternatives of service quality

measures, as EP (evaluated performance) and Normed Quality (NQ). He indicated that the EP instrument, which measured the gap between perceived performance and the ideal standards rather than the customer's expectations, outperformed both SERVQUAL and NQ (Citied in Firdaus, 2005).

2.1.2.2 HEdPERF

Firdaus (2005) in his paper "The development of HEdPERF: a new measuring instrument of service quality for the higher education sector", has developed HEdPERF (Higher Education Performance), a new instrument of service quality that captures the authentic determinants of service quality within the higher education sector. He proposed a 41 item instrument which then was empirically tested for unidimensionality, reliability and validity using both exploratory and confirmatory factor analysis (CFA). He explained the results from his study to be crucial because the past studies which measured the service quality were not totally adequate to assess the perceived quality in higher education. Furthermore, previous research were found to be too narrow, with an over emphasis on the quality of academics and too little attention paid to the non-academic aspects of the educational experiences.

Firdaus developed HEdPERF model by comparing with SERVPERF (HEdPERF-SERVPERF) in order to access the relative advantages and disadvantages of each instrument, to identify the most superior instrument. SERVPERF is another service quality measuring instrument developed by Cronin & Taylor (1992). Cronin & Taylor criticized the framework of SERVQUAL and developed their own model "SERVPERF", consisting of 22 items, and kept only the perception of service quality.

Fridaus categorized 5 determinants of service quality in higher education. They are non-academic aspect, academic aspect, reputation, access and program issues.

1. **Non-academic aspects:** This aspect relates to the duties that are carried out by non-academic staff.

2. **Academic aspects:** It consists of the items that describe the factor that are solely the responsibilities of academics (instructor).

3. **Reputation:** The factor consists of the item that is important for higher learning institutions in projecting a professional image

4. **Access:** It includes issues as approachability, ease of contact, availability and convenience of academic and non-academic staffs.

5. **Program issues:** It includes the item related to program flexibility, offering wide range of programs/ specialization, and quality program.

In study by Brochado (2009), he examined the performance of five alternative measures of service quality in the higher education sector- SERQUAL, Importance-Weighted SERVQUAL, SERVPERF, Importance-Weighted SERVPERF and HEdPERF. He collected the data by the means of a structured questionnaire containing perception items enhanced from the SERVPERF and HEdPERF scales and expectations items from the SERVQUAL scale, both modified to fit into the higher education sector. The data were gathered from a sample of 360 students in a Portuguese university in Lisbon. He found out the HEPERF to be the best measurement capability to measure higher education service quality.

2.2 Concept of Student Satisfaction

2.2.1 Definition of Satisfaction

"Satisfaction is a consumer's post purchase evaluation of the overall service experience (process and outcome). It is an affective (emotion) state of feeling reaction in which the consumer's needs desires and expectations during the course of the service experiences have been met or exceeded" (Hunt, 1977).

"Satisfaction is a post choice evaluation judgment concerning a specific purchase decision, on the other way it can be approximated by the equation: satisfaction = perception of performance – expectations" (Oliver & Richard, 1980, p.482).

"Satisfaction is a summary, affective and variable intensity response centered on specific aspects of acquisition and/or consumption and which takes place at the precise moment when the individual evaluates the objectives" (Giese and Cote, 2000, p.3).

Zeithaml *et al*. (1990) defined satisfaction as an overall judgment, perception or attitude on the superiority of service. The judgment is based on the discrepancy between expectations and actual experiences of customer.

2.2.2 Definition of Student Satisfaction

A term "student satisfaction" can be explained many ways. Kaldenberg *et al.* (1998) discussed and found that in the college, student satisfaction was driven by evaluating the quality of coursework and other curriculum activities and other factors related to the university. Lecturers should treat students with sensitivity and sympathy, and assistance should be provided when necessary. Even simple listening is appreciated.

Grossman (1999) discussed that student could be treated like a customer or a client within the college and in that case, the college serve the students on a better priority to fulfill their expectations and needs.

Elliot and Healy (2001) proposed student satisfaction is a short-term attitude, derived from the evaluation of the received education service.

2.3 The Relationship of Service Quality (Independent) and Student Satisfaction (Dependent) In Higher Education

Previous studies of conventional retailing conducted by Cronin *et al.*, (2000), Johnson and Fornell (1991) and Kirstensen *et al*.(1999) have pointed out that service quality positively influence customer satisfaction. Similarly, several studies done by Wang *et al.* (2004) in telecom industry in China, and Kim et al., (2004), Tung (2004), and Turel and Serenko (2006) in mobile services in South Korea, Singapore, and Canada supported that service quality positively influenced customer satisfaction (Cited in Kuo *et al.*, 2009).

There are several studies done in past which shows that various service quality of higher education leads to student satisfaction. Firdaus (2005) pointed out the non-academic aspects, academic aspects, program issues, access and reputation are determinants of service quality in higher education. Afjal *et al.* (2009) reported Design, Delivery and Assessment, Academic facilities, Non-academic facilities, Recognition, Guidance, Student representation, Study opportunities and Group size are the eight dimensions that determine the service quality of the higher education. Bitner & Zeithaml (1996) have discussed that the communication skills of teaching staff, the effective interaction between staff and students can help students achieve study objectives, leading to higher

student satisfaction. Kuh and Hu (2001) have claimed that effective interaction between student and faculty is a strong predicator of student satisfaction. Kara and DeShields (2004) hypothesized that faculty performance, advising staff performance, and classes would influence students' academic experience and which in turn would influence the student satisfaction. Novarro *et al*. (2005) surveyed the Spanish University students and observed service quality variables to be teaching staff, teaching methods, and courses administration which the key factors to achieve student satisfaction with short-term, specific programs. They also illustrated that the teaching staff, enrolment, and course organization are the elements that impact student satisfaction with summer courses, and facilities being a potential determinant of student satisfaction. Delaney (2005) reported that academic staff, academic experience, residential life, social life on campus, personal development opportunities, student service and resources were the service quality that lead towards the student satisfaction. Mai (2005) did a survey on the student satisfaction in higher education and its influential factors. He found that the overall impression of the school, overall impression of the quality of the education, teacher expertise and their interest in their subject, the quality and accessibility of IT facilities and the prospects of the degree furthering students careers were the most influential predictors of the student careers were the most influential predictors of the student satisfaction. Helgesen and Nesset (2007) suggest satisfaction to have positive relationship with student's perception of the university's reputation.

Brochado (2009) found that HEdPERF, distinguished non-academic aspects, academic aspects, program issues, access, and reputation in higher educational service, had high correlation with overall satisfaction, future visits and intention to recommend the

university to a friend. Huang (2009) also in his paper found HEdPERF service quality sub-variables like academic aspects, non-academic aspects, access superior to determine the student satisfaction of Xiamen University of China.

(Citied in Huang, 2009, p.38)

2.4   Demographic Factors Related To This Study

Demographic factors consist of gender, age, ethnic group, tuition fee sponsors, terms and university category. Demographic characteristics are most often used as the basis for market segmentation and also affect the extent to which a person uses products in a specific product category (Pride and Ferrell, 1997).

In this research one of the demographic variables "tuition fee sponsor" was tested as a research question. It was developed on the basis of Hofstede (1997) as an outcome of one of the dimensions of cultural values. The dimension is individualism VS collectivism. According to Hofstede (1997), the members of the culture define themselves apart from their group membership. In individualist cultures, people are expected to develop and display their individual personalities and to choose their own affiliations. In collectivist cultures, people are defined and act mostly as a member of a long term group, such as the family, a religious group, an age cohort, a town, or a profession, among others (http://www.wikipedia.org).

The researcher assumes the student who pays their tuition fee themselves is more likely to fall into the category of individualist and the student who gets tuition fee paid is likely to fall into the category of collectivist.

Furrer *et al.*, (2000) attempted to link Hofstede's cultural dimensions with the SERVQUAL dimensions. They found that in cultures with high degree of individualism, respondents reported wanting a higher level of service quality. Donthu and Yoo (1998) examined the relationship of the SERVQUAL dimensions with Hofstede's classification of culture in banking industry across four countries – U.S., Canada, UK, and India. They found that SERVQUAL dimensions varied considerably across cultures and related highly with Hofstede's cultural dimensions. They found that consumers of individualistic countries had high expectations. According to Patterson & Johnson (1993), individualist form expectations of services and once they encounter the service, they evaluate the service performance, oftentimes against their expectations (Citied in Zhang *et al., p.10*).

In the review by Zhang *et al.* in their study "Cross-cultural Service Research: A Review of the Literature and Future Research Directions", appeared that Hofstede's cultural dimensions seemed to be the dominant framework for comparisons of customer expectations of services. A major conclusion they found was that culture with more individualism have higher service quality expectations.

2.5   Previous Studies

Many studies in the past were conducted about service quality, student satisfaction and higher education. Some of them are:

Firdaus (2005), in his paper "The development of HEdPERF: a new measuring instrument of service quality for higher education sector", found HEdPERF (Higher Education Performance) to identify the authentic determinants of service quality in higher education institutions. He did his survey among the six higher learning institutions

students. The survey was done on one private university, two public universities and three private colleges in Malaysia. He found five factors non-academic, academic, reputation, access, and program issues to be the determinants of service quality in higher education. The SERVPERF and HEdPERF scales were compared in terms of reliability and validity and concluded for the superiority of the new purposed measurement instrument.

Afjal *et al*. (2009), in their paper "On student perspective of quality in higher education" proposed eight dimensions of quality in higher education. The survey was done among the students of Pakistan about their perspective of higher education. The surveyed students who were pursuing higher education (MS, MPhil, Ph.d) in technology advanced countries. The link of online survey was sent to the target population, obtaining about 300 respondents. The eight dimensions of quality they proposed are Design, Delivery and Assessment, Academic facilities, Non-academic facilities, Recognition, Guidance, Student representation, Study opportunities and Group size. According to the survey they found the Design, Delivery and Assessment, Academic facilities, recognition to be most important dimensions from student perspectives.

Qi Huang (2009) conducted a study on "The relationship between service quality and student satisfaction in higher education sector: a case study of undergraduate sector of Xiamen University of China". The research studied the undergraduate student satisfaction in service quality of Xiamen University, which was the first university in china founded by an overseas Chinese. The service quality sub variables used in the research was the combination of variables developed by Firdaus (2005), Angell, Heffernen and Megicks (2008) and Navarro, Iglesias and Torres (2005). The data was collected through

questionnaires. A 7 point Likert Scale was used to record the responses with 1 (strongly disagree) to 7 (strongly agree). The SPSS program was applied in analyzing the data. The study showed that the undergraduate student of Xiamen University of China was satisfied with the quality service provided by the university. The main sub- variable for the student satisfaction was the academic aspects followed by non- academic aspects, cost, access, teaching methods, industry links, program issues and reputation. The study showed that academic aspect to be most important for the student satisfaction in Xiamen University of China. According to the results of this analysis, it showed positive correlation between the overall service quality and student satisfaction, which is consistent with the findings of Anderson and Sullivan (1993), that satisfaction is a function of perceived service quality. The better the service quality, the higher will be satisfaction of the students.

This research was based on the past studies of Firdaus (2005), Afjal *et al.* (2009) and Qi Huang (2009). Qi Huang (2009) conducted the survey using the model developed by Firdaus (2005), Angell, Heffernen and Megicks (2008) and Navarro, Iglesias and Torres (2005). The study showed the academic aspects, non-academic aspects, access to be most important for student satisfaction in Xiamen University of China. As those three variables were of HEdPERF and was developed by Firdaus (2005), HEdPERF model was adopted to conduct this research. The additional variables were taken from the research conducted by Afjal *et al.*, (2009). In their paper they found design, delivery and assessment, academic factors and recognition to be the important factors. But design, delivery and assessment and group size were adopted and the other variables like academic factors were overlapped with academic aspects and recognition with reputation

of HEdPERF model. As the research is about the graduate student satisfaction, group size was also thought to be important factor influencing satisfaction.

The next chapter talks more about the theoretical framework and conceptual framework, on the basis of which hypotheses to be tested were developed.

CHAPTER THREE

RESEARCH FRAMEWORK

This research was mainly based on Firdaus (2005) "The development of HEdPERF: a new measuring instrument of service quality for higher education sector". This chapter consists of four parts, which are the theoretical and conceptual frameworks, research hypotheses and operationalization of independent and dependent variables.

3.1 Theoretical Framework

In study by Firdaus (2005), he found out HEdPERF (higher education performance). HEdPERF is the service quality measuring tools in the field of higher education. Later in the study by Brochado (2009), he proved HEdPERF to be an effective tool for measuring the service quality in higher education. The variables of HEdPERF regarding service quality are:

a. Non-academic aspects

b. Academic aspects

c. Reputation

d. Access an

e. Program issues.

Figure 3.1: Theoretical Framework (a)
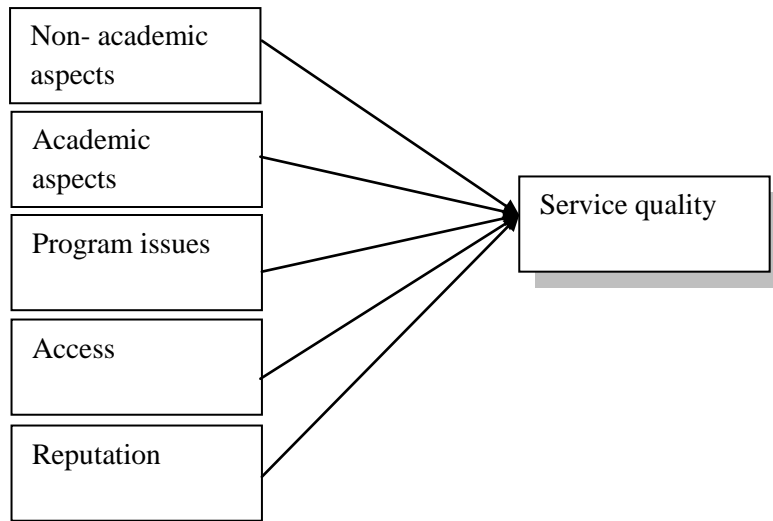
Source: Firdaus, A. (2005). "The development of HEdPERF: a new measuring instrument of service quality for higher education sector".

In the study of Afjal *et al.* (2009) "On student perspective of quality in higher education", they proposed eight dimensions of quality in higher education. The eight dimensions of quality they proposed were Design, Delivery and Assessment, Academic facilities, Non-academic facilities, Recognition, Guidance, Student representation, Study opportunities and Group size. But only two variables was adopted whereas others variables were overlapped with the variables of HEdPERF

  a. Design, Delivery and Assessment and

  b. Group size

Figure 3.2: Theoretical Framework (b)
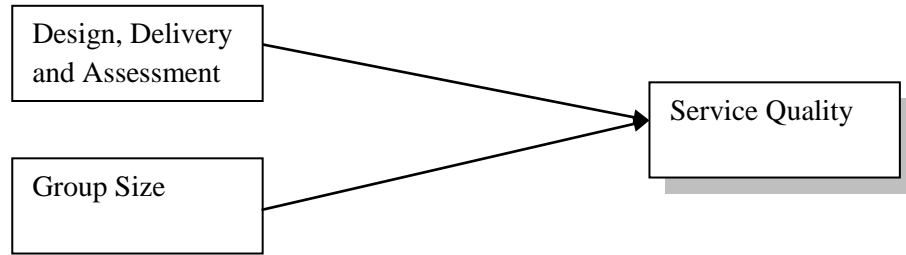
Source: Afjal *et al.* (2009) "On student perspective of quality in higher education"

3.2 Conceptual Framework

"A conceptual framework indicates how the researcher views the concept involved in a study, especially relationships between concepts" (Veal, Business research methods, 2005, p.51). This study was developed mainly based on Firdaus' HEdPREF (2005). He has measured service quality in higher education in five aspects as non-academic, academic, program issues, reputation and access. These aspects are the instruments for measuring the service quality in higher education. All these five aspects were adapted for the conceptual framework. After reviewing various literatures of service quality, two aspects, "Design, delivery and assessment" and "group size" which determined service quality was included. These two dimensions were adopted from the study of Afjal *et al.* (2009) "On student perspective of quality in higher education". So the following is the fig 3.3 is the figure of conceptual framework.

Figure 3.3: Conceptual Framework

Independent variables   **Dependent Variable**
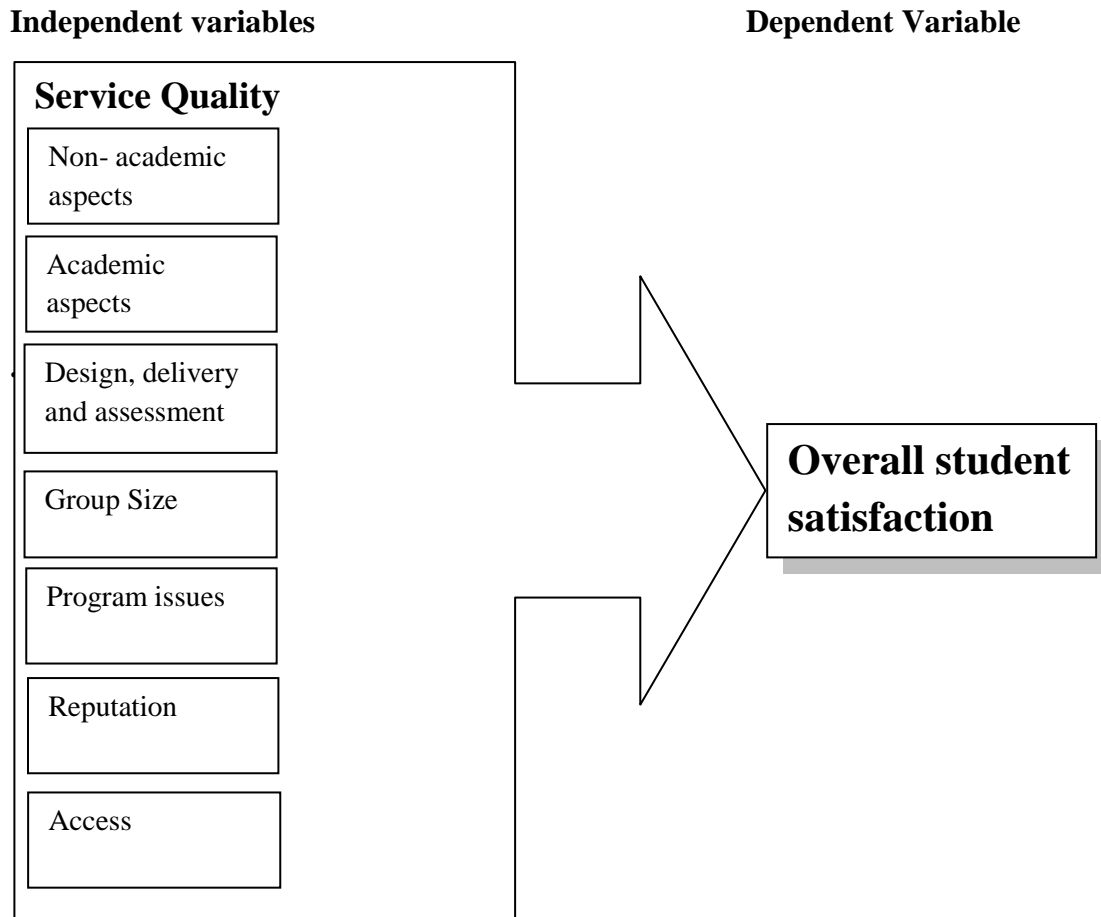
In this research, the independent variables are the seven variables of service quality, as academic factors, non-academic factors, design, delivery and assessment, group size, program issues, reputation, and access and the dependent variable is overall student satisfaction.

- **Non-academic aspects** refer to aspects that relates to duties carried out by non-academic staff (Firdaus, 2005).

- **Academic aspects** includes positive attitudes, good communication skills, sufficient consultation, regular feedback to students, and outsourcing ability of teaching staffs which relate to the responsibilities of academics (Firdaus, 2005).

- **Design, delivery and assessment** include course or syllabus design, teaching methodology, and the procedure of evaluating and grading system of the students. (Afjal *et al*., 2009).

- **Group size** includes the class size (number of students enrolled in a class), class timing. (Afjal *et al.*, 2009).

- **Program issues** were defined as offering wide ranging specializations, program with flexible structures, counseling service (Firdaus, 2005).

- **Reputation** is the professional image projected by the university (Firdaus, 2005).

- **Access** was interpreted as approachability, accessibility and ease of contact of both the academics and non-academics staffs (Firdaus, 2005).

- And overall student satisfaction is defined as students' short-term attitude, derived from the evaluation of the received education service (Elliot & Healy, 2001).

3.3 Research Hypotheses

1. Relationship between non-academic aspects and overall student satisfaction

Ho1-there is no relationship between non-academic aspects and overall student satisfaction of the students of universities in Thailand.

Ha1-there is a relationship between non-academic aspects and overall student satisfaction of the students of universities in Thailand.

2. Relationship between academic aspects and overall student satisfaction

Ho2-there is no relationship between academic aspects and overall student satisfaction of the students of universities in Thailand.

Ha2 -there is a relationship between academic aspects and overall student satisfaction of the students of universities in Thailand.

3. Relationship between design, delivery and assessment and overall student satisfaction

Ho3-there is no relationship between design, delivery and assessment and overall student satisfaction of the students of universities in Thailand.

Ha3-there is a relationship between design, delivery and assessment and overall student satisfaction of the students of universities in Thailand.

4. Relationship between group size and overall student satisfaction

Ho4-there is no relationship between group size and overall student satisfaction of the students of universities in Thailand.

Ha4-there is a relationship between group size and overall student satisfaction of the students of universities in Thailand.

5. Relationship between reputation and overall student satisfaction

Ho5-there is no relationship between reputation and overall student satisfaction of the students of universities in Thailand.

Ha5-there is a relationship between reputation and overall student satisfaction of the students of universities in Thailand.

6. Relationship between program issues and overall student satisfaction

Ho6-there is no relationship between program issues and overall student satisfaction of the students of universities in Thailand.

Ha6-there is a relationship between program issues overall student satisfaction of the students of universities in Thailand.

7. Relationship between access and overall student satisfaction

Ho7-there is no relationship between access and overall student satisfaction of the students of universities in Thailand.

Ha7-there is a relationship between access and overall student satisfaction of the students of universities in Thailand.

3.4 Construct Operationalization (Concept Measurement)

"The Operationalization of the concepts involves how the concept might be measured. Operationalization means deciding how a concept or variable is to be measured" (Veal, 2006, p.51).

In the table 3.1 the concept of the variables, the operational components and the measurement of each variable are shown. The questionnaire begins with screening questions to see whether the respondents are the graduate students or not. If the respondent is not the graduate students, the survey will not proceed. If the respondents is graduate student the survey will proceed with questionnaire by asking further questions about service quality of the university to measure the perception and the satisfaction of the students For the level of measurement, the respondents are going to be asked to mark in the interval scales to reflect their real perception on the performance of service quality

of universities in Thailand. The questionnaire closes with demographic characteristics of the respondent. The research used a designed questionnaire as a tool for the survey.

Table 3.1: Operationalization of the constructs

Concept	Conceptual Definition	Operational Component	Measurement Scale
Non-academic aspects	It refer to aspects that relates to duties carried out by non-academic staff	1. When I have problem, administrative staffs show a sincere interest in solving it. 2. Administrative staffs provide caring attention. 3. Inquiries are dealt with efficiently. 4. Administration offices keep accurate and retrievable records. 5. When the staffs promise to do something by a certain time, they do so. 6. Administrative staffs show positive work attitude towards students. 7. Administrative staffs communicate well with students. 8. Administrative staffs have good knowledge of the systems. 9. Students are treated equally by the staffs. 10. The staffs respect the terms of confidentiality when I disclose information to them.	interval scale
Academic	It includes positive	11. Instructors have the	interval scale

aspects	attitudes, good communication skills, sufficient consultation, regular feedback to students, and outstanding abilities of the teaching staff which are related to the responsibilities of academics.	knowledge to answer my questions relating to the course content. 12. Instructors deal with courteous manner. 13. When I have a problem, instructors show a sincere interest in solving it. 14. Instructors show positive attitude towards students. 15. Instructors communicate well in the classroom. 16. Instructors provide feedback about my progress 17. Instructors are highly educated in their respective field. 18. The handouts are provided adequately by the instructors. 19. The documentations are provided adequately by the instructors.	
Design, Delivery and Assessment	Course or syllabus design, class timing teaching methodology, and the procedure of evaluating and grading system of the students.	20. Curriculums designed by the university are up to date. 21. Teaching Methodology is appropriate. 22. The proportion between theory and practice are appropriate 23. The assessment and the grading by the professor are fair. 24. The timing of the class is suitable	interval scale

Group size	the class size (number of students enrolled in a class)	25. The number of students enrollment in one class is small 26. Small class size helps the class make more interactive 27. A smaller the class helps student better understand.	interval scale
Program issues	It is offering wide ranging and academic programs with flexible structures, providing counseling service.	28. The university runs excellent quality programs. 29. The university offers a wide range of program with various specializations. 30. The university operates an excellent counseling service. 31. The university offers programs with flexible structure.	interval scale
Reputation	The professional image projected by the university, and the employment of graduates.	32. The university has a professional image. 33. The academic program run by the university is reputable 34. The university's graduates are easily employable.	interval scale
Access	Approachability, accessibility and ease of contact of both the academics and non-academics staffs.	35. Academic staffs are never too busy to respond my request for assistance. 36. Academics staffs allocate sufficient time for consultation. 37. The staffs ensure that they are easily contacted.	interval scale
Overall student satisfaction	Student's short term attitude, derived from the evaluation of the	38. Overall, I am satisfied with the university.	interval scale

	received education service.		
Recommend Others	Student recommend their university to others	39. Would you recommend your university to others?	interval scale
Gender		1. Please tell me which gender you are	nominal scale
Age		2. Please tell me your age range	nominal scale
Ethnic Group		3. Please tell me which ethnic group you fall in	nominal scale
Sponsor		4. Who sponsors your tuition fee?	nominal scale
Terms		5. Please tell me how many terms have you been studying?	Open End scale
University Category		6. Please categorize the University you are studying?	nominal scale

This chapter discussed about the theoretical and conceptual framework. Seven hypotheses were developed for testing and analysis. 45 questionnaires were created to test those hypotheses. Questions of each construct (variables) were adopted from the past research of Firdaus (2005), and Afjal *et al*., (2009). The next chapter is going to discuss about the method to be used for collecting data, survey and data analysis.

CHAPTER FOUR

RESEARCH METHODOLOGY

This chapter explains about the research methodology. It includes research methods used, target population, sample design and procedure. The research instrument, scale construction, data collection procedures, reliability test and statistical treatments of data will also be explained in detail in this chapter.

4.1 Research Methods Used

The objective of this study is to examine the relationship between the service quality delivered by Universities in Thailand and the overall student satisfaction. Descriptive research will be used to describe the characteristics of the population.

The researcher used quantitative survey as the major method to find out the relationship among service quality delivered and overall student satisfaction in universities in Thailand. Quantitative surveys are designed to fit a questionnaire schedule. This is the most commonly used technique in research (Veal, 2006).

4.2 Respondents and Sample Size

4.2.1   Target Population

According to Keller (2009, p.5), "a population is the group of all items of interest to a statistics practitioner". According to McDaniel (2001) target population is a total group of people from whom the researcher may obtain information to meet the research objectives. The research aims at evaluating the overall student satisfaction towards the service quality of universities in Thailand. So, the target population is the graduate students attending universities in Thailand.

4.2.2   Sample Size

"A sample is a set drawn from the population" (Keller, 2009, p.5). As the non-probability sampling is applied, there is no specific method in determining sample size. "But, it is not practical to collect data from the entire target population, so the researcher uses a sample instead" (Field, 2005, p.35). "A minimum sample size of 100 to 200 is often recommended (Comrey, 1973, 1978; Gorsuch, 1983; Gulford, 1954, Hair *et al.*, 1979; Lindeman *et al.*, 1980; Loo, 1983). The recommendation for a minimum sample size of 100 to 200 observations is probably based on the argument that a correlation coefficient becomes an adequate estimator of the population correlation coefficient when sample sizes reach this level" (Cited in Guadgnoli and Velicer, 1988, p. 265).

As this study was to employ factor analysis and multiple regression, the sample size was based on obtaining the minimum requirement for those techniques. "As general rule, for factor analysis, the minimum is to have five times as many observations as there are variables to be analyzed" (Hair *et al.*, 1998, p.99). "Although a minimum ratio is 5 to 1 for multiple regression, the desired level is between 15 to 20 observations for each independent variable, while 200 is considered optimal" (Hair *et al.*, 1998, p.166). The final sample size obtained was comprised of 303 respondents.

4.3 Sampling Methods

"The chief motive for examining a sample rather than a population is cost. Statistical inference permits us to draw conclusions about a population parameter based on a sample that is quite small in comparison to the size of the population" (Keller, 2009, p.159).

The main objective of this research is to analyze the relationship between student satisfaction and service quality of universities in Thailand. As the study is about measuring the graduate student satisfaction who are studying in Thailand, it should relate to all universities in Thailand, but due to the time and resource constraints only universities in and near to Bangkok will be taken into sample survey. A non-probability convenience sample will be chosen for the survey in this research.

Convenience sampling is a type of non-probability sampling, which involves the sample being drawn from that part of the population which is close at hand. That is, a sample population selected because it is readily available and convenient. It may be through meeting the person or including a person in the sample when one meets them or choose by finding them through technological means such as internet or through phone (http://en.wikipedia.org/wiki/Sampling_(statistics)#Convenience_sampling_or_Accidental_Sampling).

Though non probability convenience sample has no controls to ensure precision, it is the most useful sampling method because it is the easiest and cheapest method to conduct a survey (Cooper, 2000).

4.4 Research Instrument

In this research, there are 7 variables of service quality. They are academic aspects, non-academic aspects, design, delivery and assessment, group size, program issues, reputation and access. Dependent variable is the overall student satisfaction and is used in Section A. The Operationalization of five variables of service quality: non-academic aspects, program issues, reputation and access were adapted from HEdPERF (Firdaus, 2005) and

other two variables: design, delivery and assessment, and group size were adapted from the study of Afjal *et al.* (2009) "On student perspective of quality in higher education". Two sections are categorized in the questionnaire. Section A is the main part of the research. It includes all the questions of dependent variable and independent variables. All indicators are measured on a 5-point Likert-scale, with "1" indicates the strongly disagree, "5" indicates the strongly agree. Lewis (1993) criticized the use of a seven-point Likert scale for its lack of verbal labeling for points two to six which may cause respondents to overuse the extreme ends of the scale. Babakus and Mangold (1992) suggested that five-point Likert would reduce the "frustration level" of respondents and increase response rate and quality. So, the researcher uses the 5-point Likert scale. And as per Cooper (2006), Likert scale is the most frequently used variation of the summated rating scale and it is also simple to construct and likely to produce a high reliable scale. Section B contains questions to collect the respondents' personal information.

4.5 Data Collection Procedure

Both primary and secondary data was collected to analyze the relationship between the service quality and overall student satisfaction in universities in Thailand.

4.5.1 Primary data

"Primary data are new data specifically collected in a current research project- the researcher is the primary user" (Veal, 2006, p.99).

In this research, the researcher collected primary data through questionnaire survey to achieve the specific objectives. The study collected data from various universities which were in or near Bangkok. The researcher collected the data by distributing hard copy

questionnaires and soft copy questionnaire. The soft copy questionnaire refers to the online questionnaire. Online questionnaire was created using www.docs.gooogle.com and distributed through the email and Facebook among the students doing the master's program in Thailand.

The survey was conducted from the 16th of February 2011, to the 13th of March, 2011. The major number of survey collected was from Asian Institute of Technology, Webster University Thailand, Mahidol University, Chulalongkorn University and several others. The total number of surveys collected was 303.

4.5.2   Secondary data

Secondary data are existing data but that can be used in the current project (Veal, 2006).In this report secondary data i.e. website like www.wikipedia.org was used to collect the background information of the universities of Thailand. Moreover, this study also uses the external secondary data such as books, journals, online database via internet, past research and the like.

4.6 Pre –testing

According to Zikmund W.G. (2003), the researcher should conduct the pre-testing to ensure the questionnaire's reliability and to make sure that measures are free from error and therefore yield consistent result. The reliability of the questions for each variables are obtained when Cronbach's coefficient alpha is at least 0.6. And the internal consistency and reliability of the questions will be considered higher, if the result is near to 1.

Questionnaires were all in English. Hard copy and online questionnaire were distributed among 50 students who were doing master's program in Thailand.

During the reliability test some items did not correlate well: group size (the number of student's enrollment in one class is small) and access (the staff is easy to contact). Thus, to improve the Cronbach's alpha score, the researcher removed those items from the constructs.

The results of reliability test are shown in Table 4.1:

Table 4.1: Results of Reliability Test

Aspects	Cronbach's Alpha
Non- academic aspects	**.847**
Academic aspects	**.869**
Design, delivery and assessment	**.679**
Group size	**.621**
Program issues	**.678**
Reputation	**.659**
Access	**.633**

4.7 Statistical treatment of data

All collected data was computed and analyzed using the SPSS computer program. Descriptive statistics and Inferential statistics were applied as statistical treatments this study.

4.7.1   Descriptive statistics

 "Descriptive statistics deals with methods of organizing, summarizing, and presenting data in a convenient and informative way" (Keller, 2009, p.2).

The variables which are analyzed using interval scale of measurement, tables of percentage and arithmetic mean will be applied to summarize the data.

The variables which are analyzed using nominal scale such as gender, age, ethnic, tuition fee's sponsor, University category, or open end scale such as terms, table of frequency and percentage will be applied to summarize the data.

4.7.2   Inferential statistics

"Inferential statistics is a body of methods used to draw conclusions or inferences about characteristics of populations based on sample data" (Keller, 2009, p.3).

"Pearson's correlation coefficient is a measure of the correlation between 2 variables (X) independent   and (Y) dependent variables, which gives a value between +1 and -1" (http://en.wikipedia.org/wiki/Pearson_product-moment_correlation_coefficient).

Pearson's Correlation Coefficient will be used to examine the scores between the between (X) variables of service quality and (Y) overall student satisfaction of students of Universities in Thailand. The formula of Pearson's correlation coefficient is:

$$r = \frac{\sum XY - \dfrac{\sum X \sum Y}{N}}{\sqrt{\left(\sum X^2 - \dfrac{(\sum X)^2}{N}\right)\left(\sum Y^2 - \dfrac{(\sum Y)^2}{N}\right)}}$$

The rule for testing the hypothesis is, if the P-value (significance of correlation) is less than the value of Alpha, the null hypothesis (Ho) will be rejected, which means the alternative hypothesis (H$_a$) will be accepted.

The strength of correlation coefficient is measured based on **r** value, shown in table 4.2 below:

Table 4.2: Pearson Correlation Coefficient

Correlation (r)	Interpretation
1	Perfect positive liner association
0	No liner association
-1	Perfect negative association
0.09 ~ 0.99	Very high (very strong) positive correlation
0.70 ~ 0.89	High (strong) positive correlation
0.4 ~ 0.69	Medium (moderate) positive correlation
0 ~ 0.39	Low (weak) positive correlation
0~ -0.39	Low (weak) negative correlation
-0.40 ~ -0.69	Medium (moderate) negative correlation
-0.70 ~ -0.89	High (strong) negative correlation
-0.90 ~ -0.99	Very high (very strong) negative correlation

Source: Hussey and Hussey (1997)

Similarly, to test the research questions Analysis of Variance (ANOVA) will be used to determine whether there are differences between 2 or more population means (Keller, 2009).

This chapter discussed about the methodology used for conducting the survey and analysis. The research methods used, target population, sample size, sampling methods, research instruments, data collection procedure, reliability test and how the data would be analyzed were all discussed in detail. A quantitative survey was the method used for this research. Non-probability convenience sampling was utilized to collect the data among graduate students studying in Thailand. Research questions were adopted from the past study of Firdaus (2005), Afal *et al.* (2009) and Huang (2009). The online questionnaire and hard copies were distributed among graduate students. 200 copies of hard copy questionnaires were distributed but 178 were valid to use, and from the online survey out

of 126, 125 were valid to use. Reliability tests of the questionnaire were also conducted

to test the consistency of the questionnaire. The collected data was then analyzed using

SPSS and hypotheses were tested on the basis of Pearson's Coefficient Correlation.

Chapter five discusses about the analysis and results of the collected data in detail. All the

collected data are analyzed and the results are evaluated in this chapter.

CHAPTER FIVE

PRESENTATION OF DATA AND CRITICAL DISCUSSION OF RESULTS

This chapter presents the analysis of collected data. The entire data analysis is divided into two parts: Descriptive statistics and inferential statistics. Descriptive and inferential analyses are two statistical techniques used in the data analysis. The program SPSS was used to analyze the collected data.

5.1 Descriptive statistics

Descriptive analysis refers to the transformation of the raw data into a form that will make them easy to understand and interpret (Zikmund, 1999).

The data collected from respondents was analyzed by using the SPSS program to calculate frequency distribution and percentage distribution

5.1.1 Gender

Table 5.1.1: Analysis of gender levels by frequency

<table>
<tr><td colspan="6" align="center">Gender</td></tr>
<tr><td></td><td></td><td>Frequency</td><td>Percent</td><td>Valid Percent</td><td>Cumulative Percent</td></tr>
<tr><td>Valid</td><td>Male</td><td>165</td><td>54.5</td><td>54.5</td><td>54.5</td></tr>
<tr><td></td><td>Female</td><td>138</td><td>45.5</td><td>45.5</td><td>100.0</td></tr>
<tr><td></td><td>Total</td><td>303</td><td>100.0</td><td>100.0</td><td></td></tr>
</table>

Table 5.1.2: Analysis of gender and service quality by variables

	Gender					
	Male		Female		Total	
	Mean	N	Mean	N	Mean	N
Non academic aspects	3.6776	165	3.6196	138	3.6512	303
Academic aspects	4.0013	165	3.9758	138	3.9897	303
Program issues	3.5000	165	3.4656	138	3.4843	303
Reputation	3.6646	165	3.7343	138	3.6964	303
Access	3.8081	165	3.7585	138	3.7855	303
Group size	3.9838	165	3.9130	138	3.9516	303
Design, delivery, assessment	3.6545	165	3.7493	138	3.6977	303
Overall, I am satisfied with the university	3.95	165	3.89	138	3.92	303

Table 5.1.1 shows total number of sample size collected was 303 out of which 165 (54.5%) were male respondents and 138 (45.5%) were female respondents. The majority of the participants were male graduate students.

In Table 5.1.2 we can analyze the perception of service quality variables and satisfaction by the gender. Male respondents has scored higher mean in non-academic, academic, program, access and group size where female has score higher in reputation and design, delivery and assessment. Overall, male seems a bit more satisfied with their university compared to female, although this is not statistically significant.

5.1.2 Age

Table 5.1.3: Analysis of age levels by frequency

Age Range

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20-25	123	40.6	40.6	40.6
	26-30	137	45.2	45.2	85.8
	31-35	29	9.6	9.6	95.4
	above 35	14	4.6	4.6	100.0
	Total	303	100.0	100.0	

Table 5.1.4: Analysis of age range and service quality by variables

Report

	Age Range							
	20-25		26-30		above 30		Total	
	Mean	N	Mean	N	Mean	N	Mean	N
Non academic aspects	3.7862	123	3.6022	137	3.4209	43	3.6512	303
Academic aspects	4.0614	123	3.8986	137	4.0749	43	3.9897	303
Program issues	3.5691	123	3.4161	137	3.4593	43	3.4843	303
reputation	3.7588	123	3.6302	137	3.7287	43	3.6964	303
Access	3.9377	123	3.7032	137	3.6124	43	3.7855	303
Group size	3.9702	123	3.9440	137	3.9225	43	3.9516	303
Design, delivery, assessment	3.7138	123	3.6628	137	3.7628	43	3.6977	303
Overall, I am satisfied with the university	3.97	123	3.86	137	4.00	43	3.92	303

Table 5.1.3 is the analysis of age group of the respondents. So, in the above table we see 40.6% (n=123) respondents were between the age group of 20-25 years, 45.2% (n=137) respondents were between the age of 26-30 years, 9.6% (n=29) respondents were in the age group 31-35 years and 4.6% (n=14) respondents were above 30. So, out of 303 sample size most of the graduate students belonged to the age group 26-30 years (45.6%) and in the age group of 20-25 years (40.6%).

In table 5.1.4, we can see the respondents who are among the age group 20-25 tends to have higher mean score in the service quality variables. In this table the group of 30-35 and above 35 was re-coded into group as above 30 using SPSS. The reason was to create more equal sized groups. In terms of overall satisfaction, the age group of 20-25 and above 30 tends to be more satisfied than the respondents who were among the age group of 26-30, although this is not statistically significant.

5.1.3 Tuition Fee Sponsor

Table 5.1.5: Analysis of ethnic group by frequency

Tuition Fee Sponsor

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Parents/others	186	61.4	61.4	61.4
	Self	99	32.7	32.7	94.1
	Employer	18	5.9	5.9	100.0
	Total	303	100.0	100.0	

Table5.1.6: Analysis of tuition fee sponsor and service quality by variables in

Report

	Tuition Fee Sponsor							
	Parents/others		Self		Employer		Total	
	Mean	N	Mean	N	Mean	N	Mean	N
Non academic aspects	3.6624	186	3.6414	99	3.5889	18	3.6512	303
Academic aspects	4.0119	186	3.9327	99	4.0741	18	3.9897	303
Program issues	3.5390	186	3.3460	99	3.6806	18	3.4843	303
reputation	3.7455	186	3.5825	99	3.8148	18	3.6964	303
access	3.7849	186	3.7609	99	3.9259	18	3.7855	303
Group size	4.0108	186	3.8990	99	3.6296	18	3.9516	303
Design, delivery, assessment	3.7108	186	3.6626	99	3.7556	18	3.6977	303
Overall, I am satisfied with the university	4.00	186	3.74	99	4.17	18	3.92	303

Table 5.1.5 shows who pays the tuition fee of the respondent students for their masters program. 61.4% (n=186) respondent's tuition fee were sponsored by their parents or others, 32.7% (n=99) respondent pays by their own, and 5.9% (n=18) respondent's fee were paid by their employer. So, most of the respondent's tuition fee were sponsored by their parents or by others. Others would possibly be by the government (scholarship).

Table 5.1.6 we can see the respondents who are sponsored by parents or others and by employer tends to score higher means in all the service quality variables and are also more satisfied with their university than the respondents who pay their own tuition fee. This also answers our research question "does self payment and payment by others influence satisfaction?" The answer for this question is answered in more detail in the inferential statistics section.

5.1.4 Ethnic Group

Table 5.1.7: Analysis of tuition fee sponsor by frequency

<div align="center">Ethnic group</div>

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	African	5	1.7	1.7	1.7
	Asian	230	75.9	75.9	77.6
	European	34	11.2	11.2	88.8
	North American	33	10.9	10.9	99.7
	Oceania	1	.3	.3	100.0
	Total	303	100.0	100.0	

Table 5.1.8: Analysis of Ethnic group and service quality by variables

<div align="center">Report</div>

Ethnic group		Non academic	Academic aspects	Program issues	reputation	access	Group size	Design delivery assessment	Overall, satisfaction
Asian	Mean	3.5996	3.9773	3.4837	3.7174	3.7348	3.9377	3.6974	3.92
	N	230	230	230	230	230	230	230	230
Non-Asian	Mean	3.8137	4.0289	3.4863	3.6301	3.9452	3.9954	3.6986	3.93
	N	73	73	73	73	73	73	73	73
Total	Mean	3.6512	3.9897	3.4843	3.6964	3.7855	3.9516	3.6977	3.92
	N	303	303	303	303	303	303	303	303

Table 5.1.7 shows which ethnic group the respondents belong to. As the research was about the graduate student satisfaction studying in Thailand, it was obvious for Asian students to number more than other ethnic groups. So, the above table shows 1.7% (n=5) students were African, 75.9% (n=230) were Asian, 11.2% (n=34) were European, 10.9% (n=33) were North American, and 0.3% (n=1) was from Oceania.

In Table 5.1.8, ethnic groups like African, European, North American and Oceania were re-coded into single group because the sample of those groups were far less compared to the Asians. To create more equal size group it was re-corded. From the table we can analyze except 'reputation' in all the other variables, Non-Asian has scored higher mean. Maybe the Non-Asian has more expectation from the graduate program of Thailand. But

still the mean score is above 3.6 i.e. which belongs to somewhat 'agree level'. But the overall satisfaction of both groups is similar.

5.1.5 Terms studied

Table 5.1.9: Analysis of terms studied by frequency

Please tell me how many terms have you been studying?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1st term	28	9.2	9.2	9.2
	2nd term	70	23.1	23.1	32.3
	3rd term	75	24.8	24.8	57.1
	4th term	41	13.5	13.5	70.6
	more than 4th term	89	29.4	29.4	100.0
	Total	303	100.0	100.0	

Table 5.1.10: Analysis of terms studied and service quality by variables

Report

| | Please tell me how many terms have you been studying? | | | | | | | | | | | |
| | 1st term | | 2nd term | | 3rd term | | 4th term | | More than 4th tem | | Total | |
	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N
Non academic	4.0107	28	3.6129	70	3.7413	75	3.6341	41	3.5000	89	3.6512	303
Academic	4.1825	28	3.8429	70	3.9778	75	4.0325	41	4.0350	89	3.9897	303
Program issues	3.8750	28	3.4857	70	3.5167	75	3.3720	41	3.3848	89	3.4843	303
Reputation	3.9881	28	3.6381	70	3.6578	75	3.6098	41	3.7228	89	3.6964	303
Access	4.0357	28	3.6905	70	3.8089	75	3.6911	41	3.8052	89	3.7855	303
Group size	4.1905	28	3.8857	70	3.8489	75	3.9431	41	4.0187	89	3.9516	303
Design	3.9143	28	3.5829	70	3.6267	75	3.7122	41	3.7730	89	3.6977	303
Overall, I am satisfied with the university	4.32	28	3.80	70	3.76	75	3.98	41	4.01	89	3.92	303

Table5.1.9 shows which term the respondents studying, as a measure of the level of experience they have had. 9.2% (n=28) were studying in 1st term whom we can consider

as freshman students, 23.1% (n= 70) were in 2nd term, 24.8% (n=75) were in 3rd term, 13.5 % (n=41) were in 4th term, and 29.4% (n=89) were in more than 4th term or in their final terms. So, from the table we can say most of the students were seniors rather than freshman who completed the questionnaire.

Table 5.1.10 shows the analysis of term studied and perception of the quality of service variables. From the table we can see respondents who were in 1st term are more satisfied compare to the experienced one. Respondents who were studying in 2nd or 3rd term have lower mean score compared to other 3 groups. From the above table we can conclude (excluding fresher student) satisfaction increase with the increase in terms (experience).

5.1.6 University category

Table 5.1.11: Analysis of university category by frequency

Please categorize the University you are studying?				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Public University	78	25.7	25.7	25.7
Private University	142	46.9	46.9	72.6
Others	83	27.4	27.4	100.0
Total	303	100.0	100.0	

Table 5.1.12: Analysis of university category and service quality by variables

	Report							
	Please categorize the University you are studying?							
	Public University		Private University		Others		Total	
	Mean	N	Mean	N	Mean	N	Mean	N
Non academic aspects	3.5205	78	3.7782	142	3.5566	83	3.6512	303
Academic aspects	4.0014	78	4.1056	142	3.7805	83	3.9897	303
Program issues	3.4840	78	3.5176	142	3.4277	83	3.4843	303
reputation	3.7607	78	3.7441	142	3.5542	83	3.6964	303
Access	3.6880	78	3.9225	142	3.6426	83	3.7855	303
Group size	3.9402	78	4.1080	142	3.6948	83	3.9516	303
Design, delivery, assessment	3.7179	78	3.8310	142	3.4506	83	3.6977	303
Overall, I am satisfied with the university	3.95	78	4.00	142	3.77	83	3.92	303

Table 5.1.6 shows the category of the University in which the students are studying their masters program. 25.7% (n=78) students were studying under public university (school), 46.9% (n=142) students were studying under private university (school) and 27.4% (n=83) were studying under others university (school). Other university is the category which is neither public nor private university. The university which fell under the other category were intergovernmental schools, joint schools etc. But majority of the respondents who belonged to others category was from Asian Institute of Technology (AIT). AIT is an intergovernmental school.

In Table 5.1.12 we can see that the respondents of private university tend to score higher mean in every service quality variable except reputation. Public university's respondent has score higher in reputation. The respondents who were studying in other university

54

have lower score than of the both university. Overall satisfaction private university has higher mean, than public and other university.

5.1.7 Non-academic aspects

Table 5.1.13: Analysis of Non-academic aspects by average mean and standard deviation

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
The staff respect rule of confidentiality when I disclose information to them	303	2	5	3.81	.774
Administrative staff communicates well with students	303	1	5	3.80	.847
Administrative staff shows positive work attitude towards students	303	1	5	3.73	.849
When the staff promise to do something by a certain time, they do so	303	1	5	3.65	.848
When I have a problem, administrative staff show a sincere interest in solving it	303	1	5	3.64	.917
Administration offices keep accurate and retrievable records.	303	1	5	3.62	.749
Administrative staff provide caring attention	303	1	5	3.59	.852
Administrative staff have good knowledge of the systems	303	1	5	3.57	.802
Students are treated equally by the staff	303	1	5	3.56	.854
Inquiries are dealt with efficiently	303	1	5	3.54	.791
Valid N (list wise)	303				
Non academic aspects	**303**	**1.50**	**5.00**	**3.6517**	**.60636**

Table 5.1.7 presents the perception of the respondents in term of non-academic aspects. From the table we can see the mean score of the non academic aspects was 3.6512, with the standard deviation of 0.6064. There were 10 items (questions) under non-academic aspects. Out of 10 questions "The staff respect rule of confidentiality when I disclose

information to them" and "Administrative staff communicates well with students" scored the highest with the mean of 3.81 and 3.80, and standard deviation of 0.774 and 0.847. For "the staff respect rule of confidentiality" respondent's maximum score was 5 i.e. "Strongly agree" and lowest score was 2 i.e. "Disagree". The items which were scored the lowest were "Inquiries dealt with efficiently" and "students are equally treated by the staff" with the mean score of 3.54 and 3.56, and standard deviation on 0.791 and 0.854. Both of the questions in the Likert scale got the highest score "5" and lowest score "1". But looking at the above table we can conclude all the questions mean score are slightly above 3 which means, it is above the neutral.

5.1.8 Academic aspects

Table 5.1.14: Analysis of academic aspects by average mean and standard deviation

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Instructor are highly educated in their respective fields	303	2	5	4.33	.731
Instructor has the knowledge to answer my questions relating to the course content.	303	2	5	4.11	.715
Instructor deals with me in a courteous manner.	303	2	5	4.11	.682
Instructor show positive attitude towards students	303	2	5	4.06	.728
The handouts are provided adequately by the Instructor.	303	1	5	3.96	.827
Instructor communicate well in classroom	303	1	5	3.94	.772
The documentations are provided adequately by the Instructor.	303	1	5	3.89	.788
When I have a problem, Instructor shows a sincere interest in solving it.	303	2	5	3.88	.769
Instructor provide feedback about my progress	303	1	5	3.62	.844
Valid N (list wise)	303				
Academic aspects	**303**	**1.89**	**5.00**	**3.9897**	**.53576**

Table 5.1.8 presents the perception of the respondent's in term of the academic aspects. The mean score of this variable is 3.9897 with the standard deviation of 0.53576. There 9

items (questions) under this service quality variable. The question "Instructors are highly educated in their respective fields" has the highest mean score of 4.33 and standard deviation of 0.731. The minimum score for this question is 2 i.e. "disagree" and maximum question is 5 i.e. "strongly agree. The question "Instructor provide feedback about my progress" has the lowest mean score of 3.62 and the standard deviation is 0.844. Here, in the above table the mean score of overall academic aspects is near to 4 i.e. 3.9897. So, we can conclude that academic aspects lie on "agree level".

5.1.9 Design, Delivery and Assessment

Table 5.1.15: Analysis of Design, Delivery and Assessment by average mean and standard deviation

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
The timing of the class is suitable	303	1	5	3.83	.853
Teaching Methodology is appropriate.	303	1	5	3.78	.751
Curriculums designed by the university are up to date.	303	1	5	3.67	.937
The proportion between theory and practice are appropriate	303	1	5	3.61	.850
The assessment and the grading by the instructor are fair.	303	1	5	3.61	.858
Valid N (list wise)	303				
Design, delivery and assessment	**303**	**1.80**	**5.00**	**3.6977**	**.59174**

Table 5.1.9 presents the perception of the respondents in term of design, delivery and assessment. This service quality variable gains a mean score of 3.6977 and standard deviation of 0.59174. So, the mean score of design, delivery and assessment is above neutral. There were 4 items that asked about design, delivery and assessment. Among 4 items "timing of the class is suitable" score the highest. The mean score was 3.83 and

standard deviation was 0.853. The maximum score was 5 i.e. "strongly agree" and minimum score was 1 i.e. "strongly disagree". Items like "The proportion between theory and practice are appropriate" and "The assessment and the grading by the instructor are fair" got lowest and same mean score of 3.61 but standard deviation was 0.850 and 0.858.

5.1.10 Group size

Table 5.1.16: Analysis of group size by average mean and standard deviation

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Small class size helps the class make more interactive.	303	1	5	4.30	.822
A smaller the class size helps student better understand	303	1	5	4.24	.860
The number of students enrollment in one class is small	303	1	5	3.31	.900
Valid N (list wise)	303				
Group size	**303**	**2.00**	**5.00**	**3.9516**	**.63836**

Table 5.1.10 presents the analysis of the perception of respondents in term of group size. The mean score gained by group size is 3.9516 which is close to score 4 i.e. "agree level" and the standard deviation is 0.63836. There were 3 items under group size. "Small class helps the class make more interactive" scored highest with the mean 4.30 and standard deviation of 0.822 whereas "The number of students' enrollment in one class is small" scored the lowest with the mean 3.31 and standard deviation of 0.900.

5.1.11 Program issues

Table 5.1.17: Analysis of program issues by average mean and standard deviation

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
The university runs excellent quality programs	303	1	5	3.62	.844
The university offers programs with flexible structure	303	1	5	3.54	.908
The university offers a wide range of programs with various specializations	303	1	5	3.52	.898
The university operates an excellent counseling service	303	1	5	3.26	.876
Valid N (list wise)	303				
Program issues	**303**	**1.25**	**5.00**	**3.4843**	**.65290**

Table 5.1.11 shows the analysis of the perception of the respondents in term of program issues. The program issues have the mean score of 3.4843 which is slightly above "neutral" with standard deviation of 0.65290. There are 4 items under this service quality variable. "The university runs excellent quality programs" scores the highest mean i.e. 3.62 and standard deviation is 0.844 and "the university operates an excellent counseling service" has the lowest mean of 3.26 and standard deviation is 0.876.

5.1.12 Reputation

Table 5.1.18: Analysis of reputation by average mean and standard deviation

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
The university has a professional image	303	1	5	3.87	.835
The academic program run by the university is reputable	303	1	5	3.81	.844
The university's graduates are easily employable	303	1	5	3.41	.821
Valid N (list wise)	303				
Reputation	**303**	**1.33**	**5.00**	**3.6964**	**.63980**

Table 5.1.12 represents the analysis of perception of respondents in term of reputation.

The reputation has the mean score of 3.6964 and standard deviation of 0.63980. There

were 3 items under this service quality variable. "The university has a professional image" scored highest mean i.e. 3.87 and its standard deviation was 0.835. "The university's graduates are easily employable" has the lowest mean score of 3.41 and the standard deviation of 0.821.

5.1.13 Access

Table 5.1.19: Analysis of access by average mean and access

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Instructor allocate sufficient time for consultation	303	1	5	3.82	.764
Instructor is never too busy to respond to my request for assistance.	303	2	5	3.78	.803
The staff are easy to contact	303	1	5	3.76	.887
Valid N (list wise)	303				
Access	**303**	**2.00**	**5.00**	**3.7855**	**.61604**

Table 5.1.13 represents the analysis of the perception of respondents in term of access. Access is the last service quality variable in this research. The mean score of this variable is 3.7855 and standard deviation is 0.61604. There were 3 items under this variable. "Instructor allocates sufficient time for consultation" has the highest mean score and its standard deviation is 0.764. Under this variable all the items mean score is above 3.7. So, we can conclude access is slightly closer to "agree level".

5.1.14 Overall Satisfaction

Table 5.1.20: Analysis of access by average mean and standard deviation

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Overall, I am satisfied with the university	303	1	5	3.92	.792
Valid N (list wise)	303				

Table 5.1.15 represents the analysis of the overall student satisfaction with the university. The mean score of this item is 3.92 which closer to score 4. So, it is close to "agree level". We can conclude most of the respondents agree they are satisfied with the university. Though there are some respondents who are not satisfied with the university so the minimum score for this item is 1 i.e. "Strongly disagree" but the most of the student are satisfied so the mean score is 3.92. The standard deviation for this item is 0.792.

5.1.15 Recommend Others

Table 5.1.21: Analysis of recommend others by frequency

Would you recommend your university to others ?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Definitely not recommend	7	2.3	2.3	2.3
	Probably not recommend	24	7.9	7.9	10.2
	Not sure	21	6.9	6.9	17.2
	Probably recommend	133	43.9	43.9	61.1
	Definitely recommend	118	38.9	38.9	100.0
	Total	303	100.0	100.0	

Table 5.1.14 is the analysis of the question "Would you recommend your university to others?" As the number of the respondents were 303 students, 43.9% (n=133) students would probably recommend their university, 38.9% (n=118) would definitely recommend, 7.9% (n=24) would probably not recommend, 6.9% (n=21) were not sure

and 2.3% (n=7) would definitely not recommend. So, from the above statistics we may conclude the students who satisfied with the service quality would probably or definitely recommend their university to others.

5.2 Inferential Statistics

Pearson Correlation Coefficient is used to test the relationship between the service quality variables (Non-academic aspects, academic aspects, design, delivery and assessments, group size, program issues, reputation, and access) and overall student satisfaction, and ANNOVA is used to test the research question "Does self payment and other's payment influence satisfaction?" and "If there is any difference in perception of satisfaction in term of other demographic factors?" For deciding whether the hypotheses is rejected or accepted, the researcher has to examine significance (p) value. The rule is the null hypothesis is rejected, if the p-value is less than Alpha. Since, the analysis was measured with 95% of level of confidence, so the alpha would be 5 % i.e. 0.05. Therefore, if the significance value is less than 0.05, the alternative hypothesis is accepted. The results of the hypotheses testing are shown below:

Hypothesis 1: relationship between non-academic aspects and overall student satisfaction

Ho1: there is no relationship between non-academic aspects and overall student satisfaction of the students of universities in Thailand.

Ha1: there is a relationship between non-academic aspects and overall student satisfaction of the students of universities in Thailand.

Table 5.2.1: relationship between non-academic aspects and overall student satisfaction

Correlations

		Overall, I am satisfied with the university	Non academic aspects
Overall, I am satisfied with the university	Pearson Correlation	1	.437**
	Sig. (2-tailed)		.000
	N	303	303
Non academic aspects	Pearson Correlation	.437**	1
	Sig. (2-tailed)	.000	
	N	303	303

**. Correlation is significant at the 0.01 level (2-tailed).

Table 5.2.1 shows the analysis of the relationship between non-academic aspects and overall student satisfaction of the students of Universities in Thailand. The analysis is based on the Pearson Correlation Coefficient.

The above table shows the significance is equal to .000. According to the rule if sig. is less than alpha (.000 < .001), we reject null hypothesis. Since the p-value (sig.) is less than 0.01, we can say that there is overwhelming evidence to infer that the alternative hypothesis is true. We can also say that the relationship is highly significant between non-academic aspects and overall student satisfaction of the students of universities in Thailand (Keller, 2009).

The correlation between non-academic aspects and overall student satisfaction of the students is moderate positive correlation of 0.437. Therefore, we can infer that an increase in quality of non-academic aspects may lead to a slight increase in student satisfaction.

Hypothesis 2: relationship between academic aspects and overall student satisfaction

Ho2: there is no relationship between academic aspects and overall student satisfaction of the students of universities in Thailand.

Ha2: there is a relationship between academic aspects and overall student satisfaction of the students of universities in Thailand.

Table 5.2.2: relationship between academic aspects and overall student satisfaction

Correlations		Overall, I am satisfied with the university	Academic aspects
Overall, I am satisfied with the university	Pearson Correlation	1	.617**
	Sig. (2-tailed)		.000
	N	303	303
Academic aspects	Pearson Correlation	.617**	1
	Sig. (2-tailed)	.000	
	N	303	303

**. Correlation is significant at the 0.01 level (2-tailed).

Table5.2.2 is the analysis of the relationship between academic aspects and overall student satisfaction of the students of Universities in Thailand. The table shows significance is 0.000. So, p-value (sig.) is less than 0.01 i.e. 0.000<0.01, we reject null hypothesis. Since, sig. is less than 0.01; we can say the relationship is highly significant between academic aspects and overall student satisfaction of the students of University in Thailand.

The correlation between academic aspects and overall student satisfaction is moderate positive correlation of 0.617. Therefore, quality in academic aspects positively influences student satisfaction.

Hypothesis 3: relationship between design, delivery and assessment and overall student satisfaction

Ho3: there is no relationship between design, delivery and assessment and overall student satisfaction of the students of universities in Thailand.

Ha3: there is a relationship between design, delivery and assessment and overall student satisfaction of the students of universities in Thailand.

Table 5.2.3: relationship between design, delivery and assessment and overall student satisfaction

Correlations

		Overall, I am satisfied with the university	Design, delivery and assessment
Overall, I am satisfied with the university	Pearson Correlation	1	.641[**]
	Sig. (2-tailed)		.000
	N	303	303
Design, delivery and assessment	Pearson Correlation	.641[**]	1
	Sig. (2-tailed)	.000	
	N	303	303

**. Correlation is significant at the 0.01 level (2-tailed).

Table 5.2.3 presents the analysis of the relationship between design, delivery and assessment and overall student satisfaction of the student of Universities in Thailand. The table shows the p-value (sig.) is .000 which is less than 0.01 (0.000<0.01), so we reject null hypothesis. As the p-value is less than .0001, we can say the relationship between design, delivery and assessment and overall student satisfaction of the student of University in Thailand is highly significant.

The correlation coefficient between design, delivery and assessment and overall student satisfaction is moderate positive correlation of 0.641. Therefore, with the increase in quality of design, delivery and assessment there will be increases in student satisfaction.

Hypothesis 4: relationship between group size and overall student satisfaction

Ho4: there is no relationship between group size and overall student satisfaction of the students of universities in Thailand.

Ha4: there is a relationship between group size and overall student satisfaction of the students of universities in Thailand.

Table 5.2.4: relationship between group size and overall student satisfaction

Correlations

		Overall, I am satisfied with the university	Group size
Overall, I am satisfied with the university	Pearson Correlation	1	.329[**]
	Sig. (2-tailed)		.000
	N	303	303
Group size	Pearson Correlation	.329[**]	1
	Sig. (2-tailed)	.000	
	N	303	303

**. Correlation is significant at the 0.01 level (2-tailed).

Table 5.2.4 presents the analysis of the relationship between group size and overall student satisfaction of the student of Universities in Thailand. Since the p- value is less than 0.01 (0.000<0.01), we reject null hypothesis and we can say there is a highly significant relationship between group size and overall student satisfaction of the student of Universities in Thailand.

The correlation between group size and overall student satisfaction is low positive correlation of 0.329. So, we can also conclude increase in quality in group size may also help to increase to student satisfaction, because the relationship between them is weak but is still positive.

Hypothesis 5: relationship between reputation and overall student satisfaction

Ho5: there is no relationship between reputation and overall student satisfaction of the students of universities in Thailand.

Ha5: there is a relationship between reputation and overall student satisfaction of the students of universities in Thailand.

Table 5.2.5: relationship between reputation and overall student satisfaction

Correlations

		Overall, I am satisfied with the university	Reputation
Overall, I am satisfied with the university	Pearson Correlation	1	.636[**]
	Sig. (2-tailed)		.000
	N	303	303
reputation	Pearson Correlation	.636[**]	1
	Sig. (2-tailed)	.000	
	N	303	303

**. Correlation is significant at the 0.01 level (2-tailed).

Table 5.2.5 shows the analysis of the relationship between reputation and overall student satisfaction of the students of Universities in Thailand. The p- value is 0.000 which is less than 0.01 (0.000<0.01), so we reject the null hypothesis, and we can say the relationship between reputation and overall student satisfaction of the students of University in Thailand is highly significant.

The correlation between reputation and overall student satisfaction is moderate positive correlation of 0.636. Therefore, we can conclude the student satisfaction also increase the good reputation of their university.

67

Hypothesis 6: relationship between program issues and overall student satisfaction

Ho6: there is no relationship between program issues and overall student satisfaction of the students of universities in Thailand.

Ha6: there is a relationship between program issues overall student satisfaction of the students of universities in Thailand.

Table 5.2.6: relationship between program issues and overall student satisfaction

Correlations

		Overall, I am satisfied with the university	Program issues
Overall, I am satisfied with the university	Pearson Correlation	1	.611**
	Sig. (2-tailed)		.000
	N	303	303
Program issues	Pearson Correlation	.611**	1
	Sig. (2-tailed)	.000	
	N	303	303

**. Correlation is significant at the 0.01 level (2-tailed).

Table 5.2.6 presents the analysis of the relationship between program issues and overall student satisfaction of the student of Universities in Thailand. The p-vale of this service quality variable is 0.000. Since it is less 0.01 (0.000<0.01), we reject null hypothesis and we can infer that the relationship between program issues and overall student satisfaction of the students of Universities in Thailand is highly significant.

The correlation between program issues and overall student satisfaction is moderate positive correlation of 0.611. Therefore, increase in the quality of program issues leads to positive increase in student satisfaction.

Hypothesis 7: relationship between access and overall student satisfaction

Ho7: there is no relationship between access and overall student satisfaction of the students of universities in Thailand.

Ha7: there is a relationship between access and overall student satisfaction of the students of universities in Thailand.

Table 5.2.7: relationship between access and overall student satisfaction of the students

Correlations

		Overall, I am satisfied with the university	Access
Overall, I am satisfied with the university	Pearson Correlation	1	.401[**]
	Sig. (2-tailed)		.000
	N	303	303
access	Pearson Correlation	.401[**]	1
	Sig. (2-tailed)	.000	
	N	303	303

**. Correlation is significant at the 0.01 level (2-tailed).

Table 5.2.7 shows the analysis of the relationship between access and overall student satisfaction of the student of Universities in Thailand. The above table shows p-value is 0.000 and it is less than 0.01. So, we reject the null hypothesis and we can say that there is highly significant relationship between access and overall student satisfaction of the student of Universities in Thailand.

The correlation between access and overall student satisfaction of the student is moderate positive correlation of 0.401. So, we can say accessibility, ease of contact with both academic and non academic staff somehow influence student satisfaction.

Research question:

Does tuition fee paid by self and tuition fee paid by others influence satisfaction?

Table 5.2.8: Tuition fee paid by self and tuition fee paid by others influence satisfaction

	Non Academic	Academic	Design	Group size	Program issues	Reputation	Access	Overall satisfaction
a. Parents/ others (n=186)	3.6624	4.0119	3.7108	4.0108	3.5390	3.7455	3.7849	4.00
b. Self (n= 99)	3.6414	3.9327	3.6626	3.8990	3.3460	3.5825	3.7609	3.74
c. Employer (n=18)	3.5889	4.0741	3.7556	3.6296	3.6806	3.8148	3.9259	4.17
df	2	2	2	2	2	2	2	2
F	.139	.944	.304	3.480	3.755	2.449	.545	4.559
Sig.	.871	.390	.738	.032	.025	.088	.581	.011
Significant differences between means (Post-hoc analysis)	None	None	None	a and c (0.022)	None	None	None	a and b (0.027)

Table 5.2.8 shows the mean score and ANOVA analysis of the tuition fee sponsor with overall satisfaction. Post hoc test was conducted for exploratory and interpretative purposes by comparing multiple groups for a single independent variable. The test can be done if the F-test of ANOVA found any significant difference among the groups (Lomax, 2001; Kerlinger, 2000). This study used Games-Howell test to examine the differences among groups. "The Games-Howell procedure is the most powerful when the population variances are different but can be liberal when sample sizes are small. However, Games-Howell is also accurate when sample sizes are unequal" (Field, 2005, p.341). From the ANOVA table we find out sig. to be 0.011 which is less than 0.05. If

the p-value lies between 0.01 and 0.05, we can say there is a significant difference between respondents who pays the tuition fee by themselves and who gets it paid in terms of overall satisfaction. From the post hoc test we there was significant difference (0.025<0.05) between the group parents/others and self, in terms of perception of overall satisfaction. And from the mean score we see respondents whose tuition fee is paid by the employer has the highest mean of 4.17, followed by parents/ others with 4.00 and self payment with the lowest mean of 3.74. The man score of the respondents whose tuition fee is paid by employer may be high because the sample size of the respondents is small. But still, from this analysis we can say the student who pays tuition fees by themselves have higher expectation of service quality and they are less satisfied than the students who get their tuition fees paid. So, we can conclude the self payment and payment by others influence satisfaction.

ANOVA of other demographic factors and Overall student satisfaction

To test the significance between student satisfaction and other demographic factors (gender, age, ethnic group, term studied and universities category), ANOVA was used. ANOVA was conducted to access the differences between group means and post-hoc test was conducted to determine which mean differ. Games-Howell post-hoc test was conducted as this procedure is considered the most powerful when population variance and sample size are different and unequal (Field, 2005).All the demographic factors were tested (**see Appendix II**). The demographic factors like gender, age, ethnic group and categories of university didn't have statistical difference (significance) between the group and in terms of perception of overall student satisfaction. But some differences in perception of service quality variables were found between the groups like age and

categories of university. So, here we presented only the demographic factors which had statistical significant difference between the groups. No differences between the groups like gender and ethnic group were found in terms of perception of service quality or overall student satisfaction (**see appendix II for ANOVA of gender and ethnic group**).

Table 5.2.9: ANOVA of Age range

	Non Academic	Academic	Design	Group size	Program issues	Reputation	Access	Overall satisfaction
a. 20-25 (n=123)	3.7862	4.0614	3.7138	3.9702	3.5691	3.7588	3.9377	3.97
b. 26-30 (n=137)	3.6022	3.8986	3.6628	3.9440	3.4161	3.6302	3.7032	3.86
c. Above 30 (n=43)	3.4209	4.0749	3.7628	3.9225	3.4593	3.7287	3.6124	4.00
df	2	2	2	2	2	2	2	2
F	6.851	3.691	.543	.106	1.827	.1377	6.936	.812
Sig.	.001	.026	.582	.900	.163	.254	.001	.445
Significant differences between means (Post-hoc)	a and b (0.37), a and c (0.03)	a and b (0.036)	None	None	None	None	a and b (0.006), a and c (0.011)	None

Table 5.2.9 is the ANOVA analysis of the respondents of different age group. In the table we can see the significance value of overall satisfaction is 0.445 i.e. 0.445>0.05. This mean there is no difference in the perception of overall student satisfaction between the age group. But if we look at the significance value of service quality variables like non academic aspects, academic aspects and access, we find statistical significance difference. From the post-hoc analysis we find the perception of the respondents which fall under the age group of 20-25 differs from the respondents of age group of 26-30 yrs and above 30 yrs in terms of non academic aspects and access. Looking at the mean score

they tends to score higher than other groups. Even perception of service quality of academic aspects differs between age group of 20-25 yrs and 26-30 yrs.

Table 5.2.10: ANOVA of Terms studied

	Non Academic	Academic	Design	Group size	Program issues	Reputation	Access	Overall satisfaction
a. 1st term (n= 28)	4.0107	4.1825	3.9143	4.1905	3.8750	3.9881	4.0357	4.32
b. 2nd term (n=70)	3.6129	3.8429	3.5829	3.8857	3.4857	3.6381	3.6905	3.80
c. 3rd term (n=75)	3.7413	3.9778	3.6267	3.8489	3.5167	3.6578	3.8089	3.76
d. 4th term (n=41)	3.6341	4.0325	3.7122	3.9431	3.3720	3.6098	3.6911	3.98
e. More than 4th term (n=89)	3.5000	4.0350	3.7730	4.0187	3.3848	3.7228	3.8052	4.01
df	4	4	4	4	4	4	4	4
F	4.540	2.504	2.271	1.923	3.484	1.918	1.884	3.418
Sig.	.001	.042	.062	.107	.008	.107	.113	.009
Significant differences between means (Post-hoc analysis)	a and b (0.012, a and e (0.001)	a and b (0.038)	None	None	a and d (0.028), a and e (0.013)	None	a and b (0.044)	a and b (0.012), a and c (0.003)

Table 5.2.9 shows the analysis of the perception of the respondents who are studying in different terms. In the table we can see the sig. value of student overall satisfaction is 0.009. There is a strong significant relationship between terms studied and overall student satisfaction because the sig. value is less than 0.01 i.e. 0.009<0.001. Post-hoc analysis shows us there is difference in perception of overall satisfaction between 1st and 2nd term (0.012<0.05) and 1st and 3rd term (0.003<0.01). The post hoc analysis in tale 5.2.9 also

reflects that perception of service quality variables like non-academic aspects, academic aspects, program issues and access differs among the respondents studying in different terms. We see most of the differences are between the respondents studying in 1st term and respondents of other terms, as respondents of 1st term tends to score higher mean in every factor.

In the study of Zeithmal *et al.* (1993), they found that a customer's level of expectations is dependent on a number of antecedents. One of these determinants is past experience. So, the student who are fresh, they may not know what to expect of college. Therefore, expectations may be high or low, but as the student becomes more experienced their expectations should become more realistic. And as a student comes closer to matriculation, he or she is more likely to become involved in the goal of graduating and obtaining a desirable job. It is believed that the student is likely to increase their expectations of institution's role in achieving these goals (Citied in Ham *et al.,* 2003, p. 199).

So, from the table we can conclude that the respondent in their 1st term have higher satisfaction than others because they lack experience and as the respondents progress through their expectation become more realistic. As we see in the table, after the 1st term their perception has decreased and after 4th term it again starts increasing. So, as mentioned in the study of Ham *et al.* (2003), the reason for increasing satisfaction could be due they are involved in achieving the goals of graduating and obtaining desirable job.

Table 5.2.11: ANOVA of Categories of university

	Non Academic	Academic	Design	Group size	Program issues	Reputation	Access	Overall satisfaction
Public (n=78)	3.5205	4.0014	3.7179	3.9402	3.4840	3.7607	3.6880	3.95
Private (n=142)	3.7782	4.1056	3.8310	4.1080	3.5176	3.7441	3.9225	4.00
Others (n=83)	3.5566	3.7805	3.4506	3.6948	3.4277	3.5542	3.6426	3.77
df	2	2	2	2	2	2	2	2
F	6.136	10.267	11.652	11.774	.495	2.874	6.990	2.260
Sig.	.002	.000	.000	.000	.610	.058	.001	.106
Significant differences between means (post- hoc)	a and b (0.013), b and c (0.013)	a and c (0.032), b and c (0.000)	a and c (0.016), b and c (0.000)	a and c (0.029), b and c (0.000)	None	None	a and b (0.20), b and c (0.003)	None

Table 5.2.10 is the analysis of perceptions of respondents who are studying in public, private or other universities. The sig. value of overall satisfaction is 0.106 which is greater than 0.005 (0.106 > 0.005). It means there are no differences in perceptions of satisfaction among the respondents studying in different categories of universities. But if we look at the sig. value of service quality variables (non-academic, academic, program issues, reputation and access), it indicates that the respondents studying in different categories of universities have different perceptions of service quality. From the post hoc analysis we found that mostly perception of service quality variable is different between the respondents of public and others university, and private and others university.

Looking at the mean scores of overall satisfaction of the respondent's of private university tends to score high, followed by public university and other university. But it is

not statistically significant to say that the respondents of private university are more satisfied because sig. value (0.106) is more than alpha value (0.05).

Regression analysis of dependent and independent variables

All the items measuring constructs were analyzed using factor analysis. "Factor analysis is a statistical method used to describe variability among observed variables in terms of a potentially lower number of unobserved variables called factors" (http://en.wikipedia.org/wiki/Factor_analysis). Table 5.2.9 shows the rotated component matrix which is a matrix of factor loadings for each variable for each factor. The factor loadings less than 0.4 were suppressed and the overlapping items were removed. All items shown in table 5.2.9 are the remaining items after the analysis. The items grouping into factors were then transformed into compound variables. The reason for this is to reduce multicollinearity and also to reduce the sample size needed for regression.

"Multicollinearity is usually regarded as a problem because it means that the regression coefficients may be unstable. This implies that they are likely to be subject to considerable variability from sample to sample. In any case, when two variables are very highly correlated, there seems little point in treating them as separate entities" (Savatsomboon, 2010, p.87).

Table 5.2.12: Rotated component matrix

Rotated Component Matrix^a

	Component				
	1	2	3	4	5
Administrative staff communicates well with students	.778				
Administrative staff provide caring attention	.753				
Administrative staff shows positive work attitude towards students	.750				
Administrative staff have good knowledge of the systems	.740				
When I have a problem, administrative staff show a sincere interest in solving it	.712				
The staff are easy to contact	.708				
Inquiries are dealt with efficiently	.691				
When the staff promise to do something by a certain time, they do so	.648				
Administration offices keep accurate and retrievable records.	.635				
The university runs excellent quality programs		.772			
The university has a professional image		.686			
The university offers a wide range of programs with various specializations		.681			
The academic program run by the university is reputable		.606			
The university's graduates are easily employable		.575			
The university operates an excellent counseling service		.569			
Curriculums designed by the university are up to date.		.528		.421	
The proportion between theory and practice are appropriate		.498			
Instructor allocate sufficient time for consultation			.716		
When I have a problem, Instructor shows a sincere interest in solving it.			.715		
Instructor is never too busy to respond to my request for assistance.			.687		
Instructor show positive attitude towards students			.663		
Instructor are highly educated in their respective fields					
The handouts are provided adequately by the Instructor.				.837	
The documentations are provided adequately by the Instructor.				.826	
The assessment and the grading by the instructor are fair.				.475	
Instructor has the knowledge to answer my questions relating to the course content.				.403	
A smaller the class size helps student better understand					.863
Small class size helps the class make more interactive.					.856

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 6 iterations.

Therefore, from the above table we find five variables remaining. They are (1) non-academic aspects, (2) reputation, (3) access, (4) academic aspects and (5) group size. The researcher analyzed these variables using regression (multiple) model in SPSS. "Multiple

regression seeks to predict an outcome from several predictor independent variables. This is an incredibly useful tool because it allows us to go a step beyond the data that we actually possess" (Field, 2005, p. 144). The results are as follows:

Table 5.2.13: Summary of the model

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.756[a]	.572	.565	.522	.572	79.321	5	297	.000	1.842

a. Predictors: (Constant), group size, academic, access, reputation, non academic

b. Dependent Variable: Overall, I am satisfied with the university

In table 5.2.9 the first table is a summary of the model. This summary table provides the value of r, r^2 and adjusted r^2 for the model that has been derived.

'r' represents the value of the multiple correlation coefficients between the predictors and the outcome (Field, 2005). Here, r has a value 0.756, this value represents the simple correlation between group size, academic aspects, access, design, delivery and assessment and non-academic aspects and overall student satisfaction.

'r^2' is a measure of how much of the variability in the outcome is accounted for by the predictors (Field, 2005). The value of r^2 is 0.572 which tells us that these five service quality variables can account for 57.2% of the variation in the overall student satisfaction. This means that 42.8% of the variation in overall student satisfaction cannot be explained by these five service quality variables. So, there must be other variables too that have an influence.

'The adjusted r^2' gives an idea of how well the model generalizes and ideally its value is likely to be the same or very close to, the value of r^2 (Field, 2005). Here, the difference between r^2 and adjusted r^2 is 0.7% (0.572 – 0.565= 0.007). This means that if the model were derived from the population rather than a sample it would account for approximately 0.7% less variance in outcome.

Table5.2. 14: ANOVA table analysis between independent and dependent variables

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	108.216	5	21.643	79.321	.000[a]
	Residual	81.038	297	.273		
	Total	189.254	302			

a. Predictors: (Constant), group size, academic, access, reputation, non academic

b. Dependent Variable: Overall, I am satisfied with the university

Table 5.2.10 is the output reports of an analysis of variance (ANOVA). 'F-ratio' represents the ratio of the improvement in prediction that results from fitting the model, relative to the inaccuracy still exists in the model (Field, 2005). "A large value of 'F' indicates that most of the variation in 'Y' is explained by the regression equation and that the model is valid. A small value of 'F' indicates that most of the variation in 'Y' is unexplained" (Keller, 2009, p.679). From the table we can see, F is 79.321, which is significant at p (sig.) value <.001, i.e. 0.000< 0.001. This result tells us that there is less than a 0.1% chance of F-ratio being this large. Therefore, the regression model significantly improved our ability to predict overall student satisfaction (outcome, or dependent variable).

Table 5.2.15: Coefficients of the regression model

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	3.924	.030		130.766	.000	3.865	3.983					
	non academic	.163	.030	.206	5.416	.000	.104	.222	.206	.300	.206	1.000	1.000
	reputation	.481	.030	.607	15.993	.000	.422	.540	.607	.680	.607	1.000	1.000
	access	.145	.030	.183	4.826	.000	.086	.204	.183	.270	.183	1.000	1.000
	academic	.260	.030	.329	8.662	.000	.201	.320	.329	.449	.329	1.000	1.000
	group size	.109	.030	.138	3.629	.000	.050	.168	.138	.206	.138	1.000	1.000

a. Dependent Variable: Overall, I am satisfied with the university

The *b*-values in the table 5.2.11 represent the relationship between overall student satisfaction and each predictor (i.e. service quality variables). If the value is positive we can tell that there is a positive relationship between the predictor and the outcome whereas negative coefficient represents a negative relationship. The *b*-value also tells us to what degree each independent variable affects the dependent variables if the effects of all other independent variables are held constant (Field, 2005).

In the table 5.2.11 all five service quality variables have positive *b*-values; which indicates the positive relationships between the service quality variables and overall student satisfaction. As non-academic aspects quality increases, student's satisfaction increases; as reputation increases, student's satisfaction increases; likewise as quality of access, academic aspects, group size increases, so do the student's satisfaction increase. Here, for e.g., if reputation increases by one unit, student satisfaction will increase by 0.481, other variables held constant.

The beta value tells us the number of standard deviations that the outcome will change as a result of one standard deviation change in the predictor (Field, 2005). Higher beta value signifies stronger correlation with the dependent variable. In table 5.2.11 reputation have the highest beta (0.607), followed by academic aspects (0.329), non academic aspects

(0.206), access (0.183) and group size (0.138). This represents as if the quality of reputation increases by one standard deviation, overall student satisfaction standard deviation increases by 0.607, if the academic aspects increases by one standard deviation, overall student satisfaction standard deviation increases by 0.329, if the non-academic aspects increases by one standard deviation, overall student satisfaction standard deviation increases by 0.206 and so on. But the interpretation is true only if the other variables are held constant while measuring the relationship between dependent variables and one of the independent variables. So, from the results of multiple regression we can infer that reputation influences the graduate student's satisfaction the most followed by academic aspects, non-academic aspects, access and group size.

Figure 5.1: Results of Regression analysis
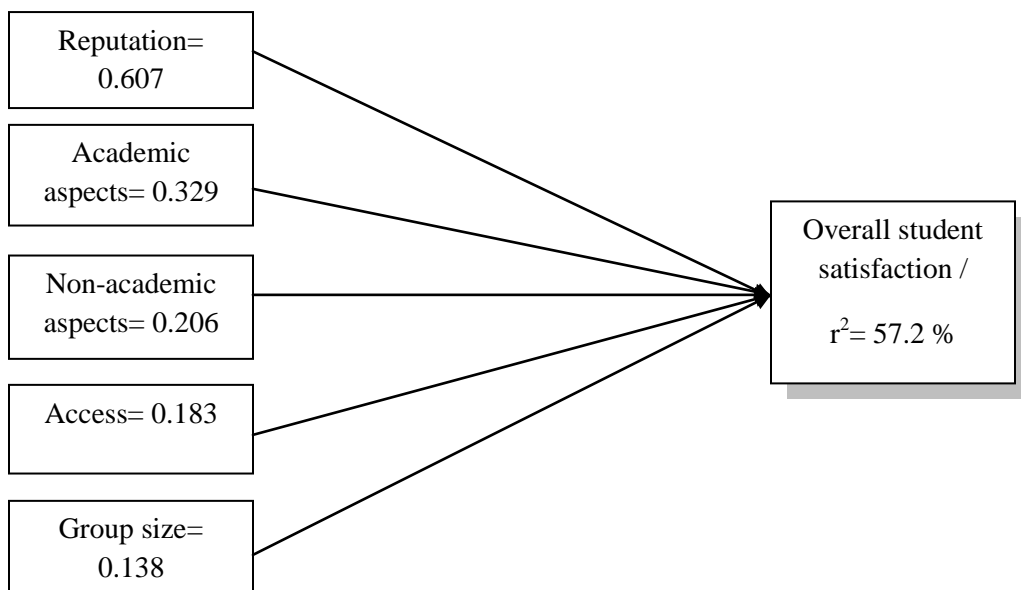
In this chapter all the collected data which were analyzed in SPSS were presented. Descriptive analysis and hypothesis testing were performed. Descriptive analysis helped see perceptions of the respondents towards service quality. Hypothesis testing was under

to find the out relationship between the service quality variables and overall student satisfaction. In chapter six the findings of the survey, conclusions and recommendations will be presented.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

This study "The study of graduate student satisfaction towards service quality of Universities in Thailand" firstly aimed to measure the perception of the student satisfaction from the service quality delivered by the universities in Thailand. This research also tried to find out if, self payment or tuition fee paid by others influence satisfaction and are there any differences in perception of satisfaction in terms of other demographic factors. This is the last chapter where summary and conclusions of findings and recommendation are discussed.

6.1 Summary and Conclusion of Findings

This study aims to find the relationship between the student satisfaction and service quality delivered by the Universities in Thailand. This study tries to answer the following questions:

- Do these service quality variables (non-academic aspects, academic aspects, design, delivery and assessment, group size, program issues, reputation and access) influence satisfaction of the student of the universities in Thailand?

- Does self payment and others' payment influence satisfaction?

- Are there any differences in the perception of satisfaction in terms of other demographic factors?

To accomplish the research objectives, a questionnaire survey was conducted from 16th February, 2011 to 13th March, 2011by using a quantitative survey. Research questions were adopted from the studies by Firdaus (2005), Afjal *et al.* (2009) and Huang (2009).

The questionnaire was produced in two formats: printed out (hard copy) and online (soft copy). The hard copy questionnaire was created using Microsoft Word 2007 and the online questionnaire was created through a website called www.docs.google.com. As the survey was about the perception of graduate student towards the service quality of their university the respondents were all the graduate students who were studying a Masters program in any university of Thailand. Most of the hard copy questionnaires were distributed in universities like Webster University of Thailand and Asian Institute of Technology. The online questionnaire was distributed through posts on university websites, email addresses and via Facebook. The total sample collected was 303.

The data was analyzed using SPSS. All the research questions of this study were answered in chapter five. The summary of the research results are as follows:

Table 6.1.1: Summary of the Tested Hypotheses

Hypothesis	Mean	Sig.	r	Results
H1: Relationship between non academic aspects and overall student satisfaction	3.65	0.000	0.437	Reject Ho
H2: Relationship between academic aspects and overall student satisfaction	3.99	0.000	0.617	Reject Ho
H3: Relationship between design, delivery and assessment and overall student satisfaction	3.7	0.000	0.641	Reject Ho
H4: Relationship between group size and overall student satisfaction	3.95	0.000	0.329	Reject Ho
H5: Relationship between reputation and overall student satisfaction	3.7	0.000	0.636	Reject Ho
H6: Relationship between program issues and overall student satisfaction	3.5	0.000	0.611	Reject Ho
H7: Relationship between access and overall student satisfaction	3.79	0.000	0.401	Reject Ho

All the null hypotheses were rejected because value of the significance was less than 0.01. So, we can infer the relationship between the overall student satisfaction and service quality variables were highly significant.

Analyzing the mean score of the service quality variables we find academic aspects has the highest mean score i.e.3.99, followed by group size with 3.95access with 3.79, design, delivery and assessment and reputation with 3.7 , non academic aspects with 3.65 and program, issues 3.5 . From these mean score we can say respondents are less satisfied with the program issues and also performance of non-academic aspects. But still the entire variable's mean score is above 3.5, which are near to "agree level". This reflects the respondents agree that are satisfied with overall performance of these variables of the service quality.

Analyzing the value of the correlation coefficients (r) between service quality variables and overall student satisfaction, we find design, delivery and assessment has the highest value i.e. 0.641, followed by reputation, academic aspects, and program issues and so on. Except group size all the other service quality variables have moderate positive correlation for influencing the student satisfaction. Though group size has weak correlation with the student satisfaction but still there is a positive correlation between them. Even though the question about overall service quality wasn't included in the questionnaire, still the researcher measured the correlation between overall service quality and student satisfaction through the help of SPSS which is shown in table 6.1.2 below:

Table 6.1.2: correlation between overall service quality and overall student satisfaction

<div align="center">Correlations</div>

		Overall Service quality	Overall, I am satisfied with the university
Overall Service quality	Pearson Correlation	1	.696**
	Sig. (2-tailed)		.000
	N	303	303
Overall, I am satisfied with the university	Pearson Correlation	.696**	1
	Sig. (2-tailed)	.000	
	N	303	303

**. Correlation is significant at the 0.01 level (2-tailed).

From table 6.1.2 we can find the correlation value between overall service quality and overall student satisfaction is 0.696 ~0.7. As it is 0.7 we can say there is strong positive correlation between the groups. So, we can conclude that all these service quality variables positively influence the student satisfaction. If there is an increase in quality of these variables, it should help to increase the satisfaction level of the students.

For the research question "Does self payment and payment by others influence satisfaction?" We found students whose tuition fee is paid by others differ from the students who pay their own fees in terms of satisfaction. It was shown in table 5.2.8 of chapter five. We found respondents whose tuition fee was sponsored by others had the higher mean score than the respondents who paid their own fees. Meaning, the respondents who pays their own fees have higher expectation of service quality. Even from the significance test we found there is evidence to show that perceptions of satisfaction differ between the respondents whose tuition fee is paid by others and who pay their own tuition fees.

For the last research question "Are there any differences in perception of student satisfaction in terms of other demographic?" We found the student perception of satisfaction differed as the term or experience increased. The students studying in different terms had different levels of perceptions of satisfaction.

After the analysis of the collected survey of 303 graduate students studying in universities of Thailand we can infer that most of the respondents are satisfied with the service quality delivered by their university. It is shown in the following table 6.1.3:

Table 6.1.3: student satisfaction with the university

		Frequency	Percent	Valid Percent	Cumulative Percent
	Overall, I am satisfied with the university				
Valid	Strongly disagree	2	.7	.7	.7
	disagree	15	5.0	5.0	5.6
	neutral	50	16.5	16.5	22.1
	agree	173	57.1	57.1	79.2
	strongly agree	63	20.8	20.8	100.0
	Total	303	100.0	100.0	

Table 6.1.3 shows 57.1 % (n=173) respondents are satisfied with their university, 20.8% (n=63) respondents are strongly satisfied with their university. So, the overall conclusion is that respondents are satisfied with the service of their university and these service quality variables positively influence student satisfaction among students of universities in Thailand.

6.2 Recommendations

After the analysis of the survey of all the collected data, we can conclude that these service quality variables have significant relationships with the overall satisfaction of the graduate students who were studying in universities in Thailand. The service quality

variables and student satisfaction have a moderately positive correlation which means there is still room for continuous improvement. The university may try to focus and put more effort on the service quality variables like non-academic aspects, and program issues because they have the lowest mean scores.

Non-academic aspects consisted of items related to duties of carried out by non-academic staff. The university may try to increase the quality of the performance of the non academic staff, perhaps by performance appraisal or other performance reviews.

Program issues consisted of items like wide range of specialization program, flexible program structure, quality counseling services etc. In our research, this variable has the lowest mean score. So, there is space for improvement. If we see table 5.1.11 we can find the items like 'university operates excellent counseling' service has a lower mean score i.e. 3.26 which is near the neutral level. These are areas where the university can make some improvements to increase the satisfaction level of the students more. They might try to provide various counseling services about career, education, and perhaps finance or others issues. Universities should provide a wide range of specialization programs and other program with flexible structure, which gives more options for students to enroll.

The university should also consider focusing on the other variables since other variables like academic aspects, reputation and design delivery and assessment, as they are important variables for influencing the satisfaction level. As this survey was conducted among graduate students, graduate students are more likely to have higher expectations of service quality variables such as academic aspects, reputation of the college, as well as

program issues, like offering a wide range of programs, design, delivery and assessment, which influence their satisfaction.

Group size and access also have good mean score. But group size has weak positive correlation and access has low to moderate positive correlation with the satisfaction of the students. Graduate students may consider less about the class timing, class size for their satisfaction but still there is a positive correlation. So, universities should also consider the items like class timing, class enrollment size, approachability, ease of contact with academic and non-academic staff to improve service quality and student satisfaction.

In this globalized world economy, every business organization is competing with many other business organizations throughout the world in their relevant fields. It is same with the universities; they are competing not only with the domestic universities, but also with the universities all around the world. They are not attracting the domestic students but also the foreign students. Thus, high service quality and student satisfaction plays a crucial role for universities to remain in the fast track race, to attract more new students, and for the success of the organization. From this research we can infer that the higher the service quality, the higher the student satisfaction.

6.3 Suggestions for Further Research

This study was developed based on the study of Firdaus (2005) "The development of HEdPERF: a new measuring instrument of service quality for higher education" with additional variables from Afjal *et al.* paper "On student perspective of quality in higher education". This research focuses on finding the relationship between service quality

variables and overall student satisfactions among graduate student of universities in Thailand, and also tries to answer the research questions: "Does payment by other and payment by self influence satisfaction?" And "Are there any differences in perception of satisfaction in terms of other demographic factors?"

Future research can be conducted by adding other service quality variables that influence student satisfaction. This study only finds the satisfaction of the student with the universities service quality. Researchers may also try to expand this study by finding student intentions to stay in the university and also recommendations about the university, as advocacy is often used as a form of loyalty measure.

The survey was conducted only among graduate students; future studies may change target population from graduate students to undergraduates or mix both and compare.

Students studying all categories of university were surveyed. Future studies might be conducted being more specific with only one category of academia, or more detailed comparisons might be explored between public and private universities.

The future research may be tested in other countries of Asia or outside Asia and try to find out if the findings are similar.

Due to time and budget constraints the survey was limited within Bangkok and the universities which are near Bangkok with sample size of 303. For future studies, researchers might expand the scope of the survey and larger sample size.

As the questionnaires were conducted only in English, Non- English speaking students were not surveyed. Thus, the researcher may also conduct their survey in English

languages vs. Thai language questionnaires, although this raises potential issues with translation and measurement equivalency.

BIBLIOGRAPHY

Afzal, W., Akram A., Akram M.S. & Ijaz A. (2010). On students' perspective of quality in higher education. 3rd International Conference. *Assessing Quality in Higher Education*, 417-418, 422.

Ansell, T. (1993). *Managing for quality in the financial services industry*. London: Chapman & Hall.

Babakus, E. & Boller, G.W. (1992). *An empirical assessment of SERVQUAL scale*, Journal of Business Research, 24 (3), 253-268.

Babakus, E. & Manigold, W.G. (1992). Adapting the SERVQUAL scale to hospital services: and empirical investigation. *Health Service Research*, 26(2), February, 767-86.

Bateson, J.E.G. (1992*). Managing service marketing: Text and reading*. Fort Worth: The Dryden Press.

Becket, N. & Brookes, M. (2006). Evaluating quality management in university departments. *Quality Assurance in Education*, 14(2), 123-42.

Berry, L.L. (1995). Relationship Marketing of Services--Growing Interest, Emerging Perspectives. *Journal of the Academy of Marketing Science*, 23 (4), 236-45.

Bitner, M.J. & Zeithaml, V.A. (1996), "Services Marketing", New York: McGraw-Hill.

Brochado, A. (2009). Comparing Alternatives Instruments to Measure Services Quality in Higher Education. *Quality in Higher Education*, 17 (2), 1-30.

Carman, J.M. (1990). Consumer perceptions of service quality: an assessment if the SERVQUAL dimesions. *Journal of Retailing*, 66, 33-55.

Cheng, Y.C. & Tam, M. M. (1997). Multi-Model of quality in education. *Quality Assurance in Education*, 5 (1), 22-31.

Comrey, A. L. (1973). A first course in factor analysis. New York: Academic Press.

Comrey, A.L. (1978). Common methodological problems in factor analytic studies. *Journal of Consulting and Clinical Psychology*, 46.

Cooper, D.R. & Emory, C.W. (1995) *Business Research Methods*, 5th ed. Singapore: Irwin

Cooper, D.R. & Schundler, P.S. (2000). *Business Research Methods*, 9th ed. Singapore: McGraw-Hill.

Cooper, D.R. & A.S. (2006). *Business Research Methods*, 9th ed. Singapore: McGraw-hill

Cronin, J.J. & Taylor, S.A. (1992). Measuring service quality: reexamination and extension. *Journal of Marketing*, 55-68.

Crosby, P.B. (1979). *Quality is free: The art of making quality certain.* New York: New American Library.

Delaney, A. (2005). Expanding students' voice in assessment through senior survey research. *American Institutional Research Professional File*, (96), 1-19.

Didomenico, E & Basu, K. (1996). Assessing service quality within the educational environment. *Service Quality in Education*, 116, 353-359.

Donthu, Naveen & Boonghee y. (1998). Cultural Influences on Service Quality Expectations. *Journal of Service Research,* 1(2), 178-186.

Drucker, P. (1985). Innovation and entrepreneurship. Harper & Row.

Easten, & McColl (1992). Statistics glossary, 1. Bristol. UK:STEPS.

Elliot, K.M. & Healy, M.A. (2001). Key factors influencing student satisfaction related to recruitment and retention. *Journal of Marketing for Higher Education*, 10 (4), 1-11.

Field, A. (2005). *Discovering statistics using SPSS*, 2nd ed., 143-217,341.

Firdaus, A. (2005). The development of HEdPERF: a new measuring instrument of service quality of higher education sector. Paper presented at the Third Annual Discourse Power Resistance Conference: *Global Issues Local Solutions*, 5-7.

Ford, J.B., Joseph, M. & Joseph, B. (1999). Importance-performance analysis as a strategic tool for service marketers: toll for service marketers: the case of service quality perceptions of business students in New Zealand and the USA. *The Journal of Services Marketing*, 13,171-86.

Furrer, Oliverier, Ben Shaw- Chining L. & Sudharshan, D. (2000). The relationship between culture and service qua;ity perceptions: Basis for cross-culture market segmentation and resource allocation. *Journal of Service Research*, 2(4), 355-371.

Gorsuch, R. L. (1983). "Factor analysis", 2nd ed. Hillsdale. NJ: Erlbaum.

Gronroos C. (1989). Defining marketing: a market-oriented approach. *European Journal of Marketing*, 23 (1), 52-6.

Grossman, R.P. (1999), Relational versus discrete exchanges: The role of trust and commitment in determining customer satisfaction. *The Journal of Marketing Management*, 9 (2), 47-58.

Guadagnoli, E. & Velicer, W.F (1988). Relation of sample size to the stability of component patterns. University of Rhode Island. *Phsycological Bulletin*, 103 (2), 265-275.

Guilford, J. P. (1954). Psychometric methods. New York: McGraw Hill.

Hair, J. F., Jr., Anderson, R.E., Tatham, R.L. & Grabiowsky, B.J. (1979). Multivariate data analysis. Tulsa. OK: Petroleum.

Hair, J.F., Tatham, R.L., Anderson, R.E. & Black, W. (1998), Multivariate data analysis. 5th ed., 99-166.

Ham, C.L., W. Johnson, A. Weinstein. R. P. & Jhonson, P. L. (2003). Gaining competitive advantages: Analyzing the gap between expectations and perceptions of service quality. *International Journal of Value- Based Management*, ABI/INFORM Global, 199.

Harvey, L. & Green, D. (1993). Defining quality. *Assessment and Evaluation in Higher Education*, 18 (1), 16.

Hill, F.M. (1995). Managing service quality in higher education: the role of the student as primary consumer. *Quality Assurance in Education,* 3, 10-21.

Hoffman, K.D. & Bateson, B.D. (1997*). Essentials of service marketing*. Forth Worth: The Dryden Press.

Hoffman, K.D. & Bateson, B.D. (2006). *Services Marketing: Concepts, Strategies & Cases*, 3rd ed., pp-346.

Hofstede (1997). *Cultures and Organization, Software of Mind*, New York: McGraw Hill.

Huang, Q. (2009). The relationship between service quality and student satisfaction in higher education sector: A case study on the undergraduate sector of Xiamen University of China. *Thesis report submitted in partial fulfillment of the requirement for the degree of: Masters of Business Administration, Assumption University, Thailand*, 16-21, 30, 38-60.

Hunt, H. K.(1977). CS/D-Overview and Future Directions in H.K. Hunt (Ed.). *Conceptualization and Measurement of Consumer Satisfaction and Dissatisfaction*, Marketing Science Institute. Cambridge. MA.

Hussey & Hussey (1997). *Business research- a practical guide for undergraduate and postgraduate students*. London: Macmillan Press Ltd. 229.

Iwaarden, V.J & Van der Wiele, T. (2002). A study on the applicability of SERVQUAL dimensions for websites. *ERM Report Series Research in Management*. Erasmus University Rotterdam, Rotterdam. 1-18.

Johnson, M.D. & Fornell, C. (1981). A framework for comparing customer satisfaction across individuals and product categories. *Journal of Economic Psychology* **12** (2), 267–286

Joseph, M. & Joseph, B. (1997). Service quality in education: a student perspective. *Quality Assurance in Education*, 5, 15-21.

Kaldenberg, Browne, W. & Brown D. (1998). Student customer factors affecting satisfaction and assessments of institutional quality. *Journal of Marketing Management*, 8 (3), 1-14.

Kara, A. & Deshiedls, O.W. (2004). Business student satisfaction, intentions and retentions in higher education: n empirical investigation. Pennsylvania State Uiversity-York Campus & California State University. Northridge. 11.

Kasper, H. Van Helsdingen, P. & De Vries, V. (1999). *Service Marketing Management*, John Wilet & Sons. New York, NY.

Keller, G. (2009), *Mangerial Statistics Abbreviated,* 8th ed. South Western: Cengage Learning. 2-4,159, 513, 355.

Kim, M.K., Park M.C. & Jeong, H.F. (2004). The effects of customer satisfaction and switching barrier on customer loyalty in Korean mobile telecommunication services. *Telecommunications Policy*, **28** (2), 145–159.

Kitchroen, K. (2004). *ABAC Journal*, 24 (2), 14-25.

Kotler, P., Armstrong, G., Saunders, J. & Wong, V. (1996). *Principle of Marketing:The European Edition*. Prentice-Hall International. Hemel. Hempstead. 588.

Kristensen, A., Martensen, A. & Gronholdt, L. (1999). Measuring the impact of buying behaviour on customer satisfaction. *Total Quality Management*, **10**(4/5), 602–614.

Kuo, Y.F, Wu, C.M. & Deng, W.J. (2009). The relationship among service quality, perceived value, cutomer satisfaction, and post-purchase intention in mobile value-added services. Department of Information Management. Institute of Economics and Management. National university of Laohsiung. Graduate School of Business Administration. Chung Hua University.

Kuh, G.D. & Hu, S. (2001). The effects of student-faculty interaction in the 1990s. *Review of Higher Education*, 24 (3), 309.

Lewis, B.R. (1993). Service quality measurement. *Marketing Intelligence and Planning*, 11 (4), 4-12.

Lewis, R.C. & Booms, B.H. (1983). The marketing aspects of service quality, in Berry L., Shostack, G. and Upha, G. (Eds). Emerging Perspectives on Services Marketing, American Marketing. Chicago. IL. 99-10.

Lindeman, R.H., Merenda, P.F., & Gold, R.Z. (1980). Introduction to bivariate and multivariate analysis. Glenview. IL: Scott, Foresman.

Llosa, S., Chandon, J. L. & Orisingher, C. (1988). An empirical study of SERVQUAL's dimensionality. *Service Industries Journal*, 18(2), 16-44.

Loo, R. (1983). Caveat on sample sizes in factor analysis. *Perceptual and Motor Skills*, 56, 371-374.

Lomax, R.G. (2001). *Statistical concepts: A second course for education and the behavioral sciences*. Lawrence Erlbaum Associates, New Jersey.

Mai, L. (2005). A comparative study between UK and US: The student satisfaction in higher education and its influential factors. *Journal of Marketing Management*, 21, 859-878.

McAlexander, J.H., Kaldenberg, D.O. & Koenig, H.F. (1994). Measuring service quality. *Journal of Health Care Marketing*, 14, 34-40.

McDaniel, a. G. (2001). *Marketing Essentials: DECA Preparation*. Retrieved june 15, 2008, form Glenco Online: http//www/glencoe.com

Mels, G., Boshoff, C. & Nel, D. (1997). The dimensions of service quality: the original European perspective revisited. *Service Industries Journal* 17(1), 173-189.

Navarro,M., M., Iglesisas M. P. & Torees P.R. (2005). A new management of universities: satisfaction with offered courses. *International Jouranl of Educational Management,*19 (6), 510.

Nejati, M., Nejati, M. & Shafaei, A. (2009). Ranking airlines' service quality factors using a fuzzy approach: study of the Iranian society. *International Journal of Quality & Reliability Management,* 26 (3), 247

Oliver, R. (1980). Cognitive Antecedents and Consequences of Satisfaction. *The Journal of Marketing Research*, 17, 482.

Owlia, Mohamaand S. & Aspinwall, Elaine M. (1996). Quality in Higher Education- a Survey. *Total Quality Management*, 7 (2), 161-171.

Parasuraman, A., Zeithaml, V.A, & Berry, L. L. (1985). Studies PBZ90 and PBZ 91 1990" citied in George R. Milne, Mark A. McDonald (ed.). *Sport marketing: Managing the exchange process*, 110-114.

Parasuraman, A., Zeithaml, V.A, & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Retailling, 64 (Spring),* 12-40.

Patterson, Paul G. & Johnson, L.W. (1993). Disconfirmation of Expectations and the Gap Model of Service Quality: An integrated paradigm. *Journal of Consumer Satisfaction Disatisfaction and Complaining Behavior*, 6, 90-99.

Query, T.J., He, M. & Hoyt, R.E. (2007). Service quality in private passenger automobile insurance. *Journal of Insurance Issues*, 30 (2), 152-172.

Robson, C. (2002). Real world research: A resource for social scientists and practioner-reserchers. 2nd ed. UK:Blackwell Publishers Ltd.

Sasser, W.E., Olsen, R.P., & Wyckoff, D.D. (1978). *Management of Service Operations*. Allyn & Bacon, Boston. MA.

Schreiner, L.A. (2009). Linking student satisfaction and retention. Azusa Pacific University. Noel Levitz. 1.

Seymour, D.T. (1993). *Causing Quality in Higher Education*. Oryx. Phoneix. AZ. 42.

Shank, M. D., Walker, M. & Hayes, T. (1995). Understanding professional service expectations: do you know what our students expect in a quality education?. *Journal of Professional Service Marketing*, 13(1), 71-89

Savatsomboom, G. (2010). SPSS workshop. Webster University Thailand Campus. 87.

Solomon, M.R. (1994). *Consumer Behavior*, 2nd ed. Allyn & Bacon, London. 346.

Stanton William J., Etzel Micheal J. & Walker Bruce J. (1994). *Fundamental of Marketing,* 10th ed. McGraw-Hill Inc. New York.

Teas, R.K (1993). Expectations, performance evaluation, and consumer's perceptions of quality. *Journal of Marketing*, 57, 18-34.

Tung, L.L. (2004). Service quality and perceived value's impact on satisfaction intention and usage of short message service (SMS). *Information Systems Frontiers*, **6** (4), 353–368.

Turel, O. & Serenko, A. (2006). Satisfaction with mobile service in Canada: An empirical investigation. *Telecommunications Policy*, **30** (5/6), 314–331.

Veal, A.J. (2005). *Business Research Methods*, 2nd ed. Pearson Education Australia.

Wang, Y., Lo, H.P. & Yang, Y. (2000). An integrated framework of service quality customer value, satisfaction: Evidence from China's telecommunication industry. *Information Systems Frontiers*, **6** (4), 325–340.

Waugh, R.F. (2002). Academic staff perceptions of administrative quality at universities. *Journal of Educational Administration*, 40(2), 172-188.

Wright, C. and O'Neill, M. (2002). Service quality evaluation in the higher education sector: an empirical investigation of students' perceptions. *Higher Education Research & Development*, 21 (1), 23-39.

Zeithaml, V.A. (1981). How consumer evaluation processes differ between goods and services. In J. Donnelly and W. George (Eds.). *Marketing of services*. Chicago: American Marketing. 186-190.

Zeithaml, V. A., Parasuraman, A. & Berry, L.L. (1990). Delivering quality service: Balancing customer perceptions and expectations. The Free Press. New York.

Zikmund, W.G. (1999). *Essentials of marketing research*. Fort Worth: The Dryden Press.

Zikmund, W.G. (2000). *Exploring Marketing Research*, 7th ed. Orlando: Harcourt Brace College Publishers. The Dryden Press.

Zikmund, W.G. (2002). *Business Research Methods*, 7th ed. USA: South- Western.

Zikmund, W.G. (2003). *Business Research Methods*, 5th ed. Mason OH: The Dryden Press.

Zhang, J., Beatty S.E. & Walsh G. Cross-cultural services research: A review of the literature and future research directions. pp. 9-11.

Websites:

www.experiencefestival.com/a/University/id/2033074).

http://en.wikipedia.org/wiki/List_of_universities_in_Thailand.

http://studyinthailand.org/.

http://en.wikipedia.org/wiki/Sampling_(statistics)#Convenience_sampling_or_Accidental_Sampling.

http://en.wikipedia.org/wiki/Pearson_product-moment_correlation_coefficient.

www.wikipedia.org/wiki/Quality.

(http://en.wikipedia.org/wiki/Service).

APPENDIX I

Questionnaire

This survey is used in partial fulfillment of Master Degree of Business Administration, Webster University Thailand. This survey is completely anonymous and confidential. Your responses are a critical part of my research. Please answer all the questions as candidly and completely as possible. Thank you for your time.

Screening Question:

Are you currently studying in Master's Program in Thailand?

- o Yes
- o No

(If, No. Thank you. Have a nice day)

Section A

These Sections are related to certain aspects of the service that you experience in your University. Please mark the appropriate response to indicate your own personal feeling by circling based on the following scale

1= strongly disagree   2=disagree   3=neutral   4= agree

5= strongly agree

		1	2	3	4	5
1.	When I have a problem, administrative staff show a sincere interest in solving it					
2.	Inquiries are dealt with efficiently					
3.	The university has a professional image					
4.	Instructor allocate sufficient time for consultation					
5.	Teaching Methodology is appropriate.					
6.	Instructor are highly educated in their respective fields					
7.	The timing of the class is suitable					
8.	The staff respect rule of confidentiality when I disclose information to them					

9.	Instructor is never too busy to respond to my request for assistance.					
10.	Instructor show positive attitude towards students					
11.	When the staff promise to do something by a certain time, they do so					
12.	Administrative staff have good knowledge of the systems					
13.	The staff are easy to contact					
14.	The university operates an excellent counseling service					
15.	When I have a problem, Instructor shows a sincere interest in solving it.					
16.	Administrative staff provide caring attention					
17.	The handouts are provided adequately by the Instructor.					
18.	The documentations are provided adequately by the Instructor.					
19.	Curriculums designed by the university are up to date.					
20.	Small class size helps the class make more interactive.					
21.	A smaller the class size helps student better understand					
22.	The proportion between theory and practice are appropriate					
23.	The assessment and the grading by the instructor are fair.					
24.	The number of students enrollment in one class is small					
25.	Administration offices keep accurate and retrievable records.					
26.	The university offers programs with flexible structure					
27.	Administrative staff shows positive work attitude towards students					

28.	The academic program run by the university is reputable					
29.	Instructor has the knowledge to answer my questions relating to the course content.					
30.	Instructor deals with me in a courteous manner.					
31.	Administrative staff communicates well with students					
32.	The university's graduates are easily employable					
33.	Students are treated equally by the staff					
34.	The university runs excellent quality programs					
35.	The university offers a wide range of programs with various specializations					
36.	Instructor communicate well in classroom					
37.	Instructor provide feedback about my progress					
38.	Overall, I am satisfied with the university					

39. Would you recommend your university to others?
   a. Definitely recommend
   b. Probably recommend
   c. Not sure
   d. Probably not recommend
   e. Definitely not recommend

Section B

The following personal information is necessary for validation of the questionnaire. All responses will be kept confidential. Your cooperation in providing this information will be greatly appreciated.

1)   Please tell me which gender you are
o   Male
o   Female

2) Please tell me your age range:
o Below 20
o 20-25
o 26-30
o 31-35
o Above 35

3) Please tell me which Ethnic group you fall in
o African
o Asian
o European
o North American
o South American
o Oceania

4) Who sponsors your tuition fee?
o Parents/ Others
o Self
o Employer

5) Please tell me how many terms have you been studying?_____

6) Please categorize the University you are studying?
o Public University
o Private University
o Others

☺Thank you! Have a nice day☺

APPENDIX II

ANOVA of Demographic Factors

ANOVA of Genders

	Non Academic	Academic	Design	Group size	Program issues	Reputation	Access	Overall satisfaction
Male (n=165)	3.6776	4.0013	3.6545	3.9838	3.5000	3.6646	3.8081	3.95
Female (n=138)	3.6196	3.9758	3.7493	3.9130	3.4656	3.7343	3.7585	3.89
df	1	1	1	1	1	1	1	1
F	.687	.170	1.932	.924	1.932	.890	.487	.434
Sig.	.408	.681	.166	.337	.648	.346	.486	.511
Post-hoc (Sig.)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

* N/A- Post-hoc test was not by SPSS because there are fewer than three groups

ANOVA of Ages

	Non Academic	Academic	Design	Group size	Program issues	Reputation	Access	Overall satisfaction
a. 20-25 (n=123)	3.7862	4.0614	3.7138	3.9702	3.5691	3.7588	.63640	3.97
b. 26-30 (n=137)	3.6022	3.8986	3.6628	3.9440	3.4161	3.6302	.57120	3.86
c. Above 30 (n=43)	3.4209	4.0749	3.7628	3.9225	3.4593	3.7287	.61261	4.00
df	2	2	2	2	2	2	2	2
F	6.851	3.691	.543	.106	1.827	.1377	6.936	.812
Sig.	.001	.026	.582	.900	.163	.254	.001	.445
Significant differences between means (Post-hoc)	a and b (0.37), a and c (0.03)	a and b (0.036)	None	None	None	None	a and b (0.006), a and c (0.011)	None

ANOVA of Ethnic groups

	Non Academic	Academic	Design	Group size	Program issues	Reputation	Access	Overall satisfaction
Asian (n=230)	3.5996	3.9773	3.6974	3.9377	3.4837	3.7174	3.7348	3.92
Non-Asian (n=73)	3.8137	4.0289	3.6986	3.9954	3.4863	3.6301	3.9452	3.93
df	1	1	1	1	1	1	1	1
F	7.049	.514	.000	.453	.001	1.031	6.585	.008
Sig.	.008	.474	.988	.502	.976	.311	.011	.927
Post – hoc (Sig.)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

ANOVA of Tuition Fee Sponsors

	Non Academic	Academic	Design	Group size	Program issues	Reputation	Access	Overall satisfaction
a. Parents/ others (n=186)	3.6624	4.0119	3.7108	4.0108	3.5390	3.7455	3.7849	4.00
b. Self (n=99)	3.6414	3.9327	3.6626	3.8990	3.3460	3.5825	3.7609	3.74
c. Employer (n=18)	3.5889	4.0741	3.7556	3.6296	3.6806	3.8148	3.9259	4.17
df	2	2	2	2	2	2	2	2
F	.139	.944	.304	3.480	3.755	2.449	.545	4.559
Sig.	.871	.390	.738	.032	.025	.088	.581	.011
Significant differences between means (Post-hoc analysis)	None	None	None	a and c (0.022)	None	None	None	a and b (0.027)

ANOVA of terms studied

	Non Academic	Academic	Design	Group size	Program issues	Reputation	Access	Overall satisfaction
a. 1st term (n= 28)	4.0107	4.1825	3.9143	4.1905	3.8750	3.9881	4.0357	4.32
b. 2nd term (n=70)	3.6129	3.8429	3.5829	3.8857	3.4857	3.6381	3.6905	3.80
c. 3rd term (n=75)	3.7413	3.9778	3.6267	3.8489	3.5167	3.6578	3.8089	3.76
d. 4th term (n=41)	3.6341	4.0325	3.7122	3.9431	3.3720	3.6098	3.6911	3.98
e. More than 4th term (n=89)	3.5000	4.0350	3.7730	4.0187	3.3848	3.7228	3.8052	4.01
df	4	4	4	4	4	4	4	4
F	4.540	2.504	2.271	1.923	3.484	1.918	1.884	3.418
Sig.	.001	.042	.062	.107	.008	.107	.113	.009
Post-hoc analysis (sig.)	a and b (0.012, a and e (0.001)	a and b (0.038)	None	None	a and d (0.028), a and e (0.013)	None	a and b (0.044)	a and b (0.012), a and c (0.003)

ANOVA of University categories

	Non Academic	Academic	Design	Group size	Program issues	Reputation	Access	Overall satisfaction
Public (n=78)	3.5205	4.0014	3.7179	3.9402	3.4840	3.7607	3.6880	3.95
Private (n=142)	3.7782	4.1056	3.8310	4.1080	3.5176	3.7441	3.9225	4.00
Others (n=83)	3.5566	3.7805	3.4506	3.6948	3.4277	3.5542	3.6426	3.77
df	2	2	2	2	2	2	2	2
F	6.136	10.267	11.652	11.774	.495	2.874	6.990	2.260
Sig.	.002	.000	.000	.000	.610	.058	.001	.106
Post hoc (sig.)	a and b (0.013), b and c (0.013)	a and c (0.032), b and c (0.000)	a and c (0.016), b and c (0.000)	a and c (0.029), b and c (0.000)	None	None	a and b (0.20), b and c (0.003)	None