A STUDY TO ASCERTAIN CUSTOMERS' SATISFACTION ON BUILDING PERFORMANCE AND FACILITIES PROVIDED IN POLYTECHNIC KULIM

MASZUWITA BINTI ABDUL WAHAB

A thesis submitted in fulfillment of the requirements for the award of the degree of Master of Facility Management

Faculty of Geoinformation Science and Engineering
University Technology Malaysia

NOVEMBER 2005

Dedicated To The love of my life.....

To my lovely appa Mr. Abdul Wahab

Mum Madam Maznah Abdullah

Sisters: Dr. Fauziah Wahab

Ms Fazilah Sri Doshtri

Ms Nur Suhaili

Beloved brother: Mr. Sheik Muzamil Wahab

Beloved niece and nephews: Divya, Leesha, Savith,

Daniel, And Mazwin

And also not forgetting Mr & Mrs Kumaraguru,

Mr and Mrs Ikram,

Last but not least to all my wonderful friends

LOVE YOU ALL.....

ACKNOWLEDGEMENT

From the blessing of Allah S.W.T, I have finished my master's project smoothly without any problems. The writer wishes to take this opportunity to extend her warmest and heartfelt gratitude to the supervisor of this Master's Project, Dr.Rosdi. Rahman for his invaluable guidance. His encouragement, guidance and caringness are very much appreciated and indebted to the supervisor for spending his precious time in helping the writer by suggesting for improvements in her Master's Project. The writer would also like to thank her panels Dr. Buang Alias and Dr. Norhaya Kamarudin

I would also like to wish a million thanks to Polytechnic Kulim and Department of Electrical Engineering in giving as much as information needed for this study. Thanks to Library Sultanah Zanariah, PHT Information Centre,and FKSG. Sincere gratitude also goes to my family and friends for their endless love, encouragement and sacrifice. Without their love and support, i would not have been where I am today.

THANK YOU

ABSTRACT

Customer satisfaction is very important in every organization's success. This is because customers are the person who judge and evaluate the quality of a business where the customer satisfaction become the mantra for success among all the organizations in today's life. Therefore, customer satisfaction towards building performance will assure an organization to create a high performance building and at the same time understand their customers' requirements and needs. Realizing this, a research had done in Polytechnic Kulim (PKU) where PKU did not know how to measure their customers needs, did not focus on the important customers, did not create good space and environment to the customers etc. To overcome all this problems, the writer constructed a trend of analysis in order to portray the level of satisfaction towards building performance. This is carried out by constructing the questionnaires accordingly in order to achieve the objectives of the study and to analyze the level of satisfaction in order to give an authentic output for this study. In conclusion, the writer has proposed few suggestions for the consideration of PKU in order to be more customer focus that can help the organization to achieve the goals, mission and to be successful in their business.

ABSTRAK

Mengukur kepuasan pengguna adalah amat penting dalam setiap organisasi bagi memperolehi kejayaan dalam perniagaaannya. Ini adalah kerana, pengguna ialah orang yang mengukur kualiti sesuatu perniagaan dimana kepuasan pengguna merupakan mantra bagi kejayaan sesebuah organisasi pada masa sekarang. Oleh itu, kepuasan pengguna terhadap sesebuah bangunan akan menjamin organisasi dalam membentuk bangunan yang berprestasi tinggi serta dapat memahami keinginan dan keperluan pelanggan. Menyedari situasi ini, penulis telah membuat kajian di Politeknik Kulim kerana organisasi PKU tidak tahu bagaimana hendak mengukur kepuasan pennguna, tidak menyediakan fasiliti yang secukupnya, tidak fokus kepada pelanggan yang penting, tidak menyediakan ruang dan suasana yang baik. Untuk menyelesaikan masalah ini, penulis telah membuat satu analisis bagi mengetahui tahap kepuasan pengguna prestasi bangunan dimana penulis telah membuat borang soal selidik mengikut objektif yang hendak dicapai dalam kajian ini serta membuat analisis dalam memperolehi keputusan yang tepat. Selain itu, penulis juga telah memberi beberapa candangan untuk PKU supaya lebih fokus terhadap keperluan pelanggan serta mencapai objektif, visi, misi dan sukses dalam perniagaan mereka.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

SPSS	-	Statistical Package for Social Science
Sq.ft	-	Square Feet
PKU	-	Polytechnic Kulim
SKE	-	Certificate in Electric and Electronic Engineering
DTK	-	Diploma in Elektronik Engineering (Computer)
DEK	-	Diploma in Electric Engineering
DKE	-	Diploma in Elektronik Engineering

LIST OF APPENDICES

APPENDIX	TITLE
A	Questionnaires
B	Plans

INTRODUCTION

CHAPTER 1

CHAPTER 1

INTRODUCTION

1.1 Background

The overall performance of a building should be assessed by the combined performance of the building as it is affected by the technical capability of the building; the technological environment; the business and its processes and perhaps most importantly the individuals involved **(Alexander, 1996)**. Building performance is clearly not static and knowledge of trends in business and technology are required to be able to predict the changing demands. All buildings require, throughout their life, a level of performance and a standard of management that can provide and sustain conditions suitable for the well-being of their users **(Becker, 1996)**.

In the same way that facilities management responsibilities in an organization can be seen at a number of levels, so to building performance. The approaches to building performance are built ability; flexibility; maintainability; adaptability; habitability and marketability. Alexander **(1996)** identified that; building performance can be addressed from four different aspects. They are technical capability, technological environment, building management system and human scale and the ability to directly control his/her own microenvironment.

Building performance is very important in order to improve organizational effectiveness and to achieve their goals and vision. It is obvious that buildings are for people. People pay for them, use them and design them. The design of building consists of people making decisions on behalf of other people that affect another set of people. Therefore, understanding the performance of building, an organization must start with understanding of people **(Markus, 1981)**.

Many high performance team or organization requires a high performance environment and this can support the complete physical, social and mental well being of internal and external customers. To achieve this situation, organization should create a democratic setting to allow determination by customers. In order to create a high performance building and to achieve a sustainable competitive advantage, customers' satisfactions plays an important role and have certain expectations about what he or she will receive.

Customers will only be satisfied when their expectations are met. As we all know, customers' satisfaction is important because of its impact on the organizations bottom line, as it leads to repeat business. They are the person who judge and measure the organization performance, quality, services etc. Customer satisfaction towards building performance is to help an organization to develop and implement innovative workplace strategies and to produce a well-maintained environment.

To satisfy customers' requirement, organizations must have the knowledge about customers' perception and measure their attitudes to meet the fundamental business goals and support the organization's identity, where customer satisfaction become the mantra for success among all the organizations in today's life.

1.2 Problem Statement

There are many facilities provided in a building in order to make the building more efficient and at the same time satisfy customers' requirements. The building performance indicators must be related to the organization's strategic objectives. A good building performance should have the right match for indicators and objectives because a well-maintained building can provide good environment and most probably satisfy their customers **(Becker, 1996)**. Meanwhile, customer satisfaction towards building performance drives an organization gearing up for surviving in this twenty-first century. Problems that the writer identified in the early stage of the study in Department of Electrical Engineering, Polytechnic Kulim are divided into few components. They are as below:

a) **Organization did not measure their customers' satisfaction and perception. As a result, facilities that they provide is not enough and in some circumstances not suitable for their customers.**

b) **Organization did not focus on the important customers (external customers) needs and requirement where they failed to manage their customers' satisfaction.**

c) **Organization did not provide good environment and space, where these two elements play an important role in every building.**

An organization should always be aware of the importance of keeping the customers satisfied and how to keep them satisfied. They should also be aware of service expectations in order to improve services to customers. An essential part of measuring satisfaction includes identifying the dissatisfaction **(Source: NAHB Research Centre Staff .Com)**. Dissatisfied customers not only spread the word to more than twice as many people as our most satisfied customers. They often hold on the information, which an organization needs to succeed**.** One dissatisfied customer can wipe out the good will

of ten satisfied customers. However, measuring customer satisfaction is very important in every organization **(Becker, 1996)**. Meanwhile, measuring customer satisfaction towards building performance is not only done by big organizations. Small organizations should also be aware of measuring customers' satisfaction in order to produce good quality services, well-maintained environment and continuous improvement **(Becker, 1996)**.

1.3 Objectives of Study

To facilitate this study, two objectives were formulated that will serve as a guidelines in carrying out the study.

a) Identify the facilities provided and their performance in the Department of Electrical Engineering, Polytechnic Kulim
b) Identify the level of satisfaction towards building performance from the external customers (students)

1.4 Scope of Study

Good building performance will not guarantee success, nor will poorly designed ones guarantee failure, but the satisfaction of customers towards building performance is one of the important elements to ensure success and to achieve the objectives and goals of all the departments in Polytechnic Kulim. This study is focused on the level of customer satisfaction, facilities provided and its performance in Department of Electrical Engineering, PKU. The writer chose this case study because, there are many laboratories and lecture rooms provided in this department, but the facilities are poor compared to other department. A study should be carried out in order to provide information to the Department of Electrical Engineering to take necessary action to remedy the situation.

1.5 Significance of Study

It is hope that the outcomes of the study will benefits to as many people or parties but namely:

Organization of Department of Electrical Engineering, PKU

Hope that this study will help the organization to understand, manage their customers' requirement and deliver good quality facilities in order to satisfy their customers. Meanwhile, this study will also help the organization to understand the level of customers' satisfaction, expectations, technique for exceeding customers' expectations, and how to improve and achieve their objectives and be successful in their business.

External customers

The writer hopes that this study will give benefits to the external customers by providing them good building performance and create a high performance of environment in order to satisfy their customers' requirements, where customers are the main people who judge and measure the quality of an organization.

1.6 Methodology

Methodology is the workflow that is used in this study to produce the desired result and achieve the objectives of the study. In every research, methodology plays an important role in giving the right picture on how a research is done. Form of research is divided into three phases. They are the early research phase, data collection phase and data analyzing phase

Early research phase

The early research phase is very important in every research in order to produce a systematic and productive study. In this phase, scanning the situation of PKU helps in identifying the problem. Based on the problems identified, objectives are formulated in order to find out solutions for the identified problems and at the same time, objectives need to be achieved. All these information are used in writing the chapter one and two.

Data Collection Phase

Data collection phase also plays an important role in every research. There are two types of data collection, primary data and secondary data. Between these two data, primary data is more important in order to achieve the objectives of this study. The writer starts the research by collecting the information regarding Polytechnic Kulim by scanning the situation in PKU. From there, the writer gathered several information about the case study and contacts the Polytechnic Kulim to get an appointment in order to get more information in detail.

The management of Polytechnic Kulim agrees to give their information regarding the Polytechnic and help to assist in this study. The management has appointed the head of technician Miss Zarina to accompany the writer and explain about the facilities provided and its performance in the Department of Electrical Engineering. The writer also had face-to-face interview with certain staffs of Polytechnic Kulim regarding the case study.

To achieve the second and third objectives, questionnaires will be distributed to the external customers in order to get the authentic result that can help in being successful in this study. Meanwhile, the secondary data, such as information regarding building performance, customer satisfaction, and techniques in exceeding customer satisfaction is collected by referring to journals; magazines, thesis, and internet

Data Analyzing Phase

Lastly, the study provides a fundamental process in analyzing data where the data will be verified in order to know that all the questionnaires are answered and have been collected. All the collected questionnaires will be analyzed using the SPSS software.

The satisfaction survey plays an important role in helping the organization to understand the expectation and requirements of customers, helps to evaluate the impact of change in policy, product and services, and to achieve their goals and be successful in their business. Besides that, this survey gives greater impact on the achievement of organizational goals. Finally, writer will discuss about the result obtained in chapter five and conclusion in chapter six.

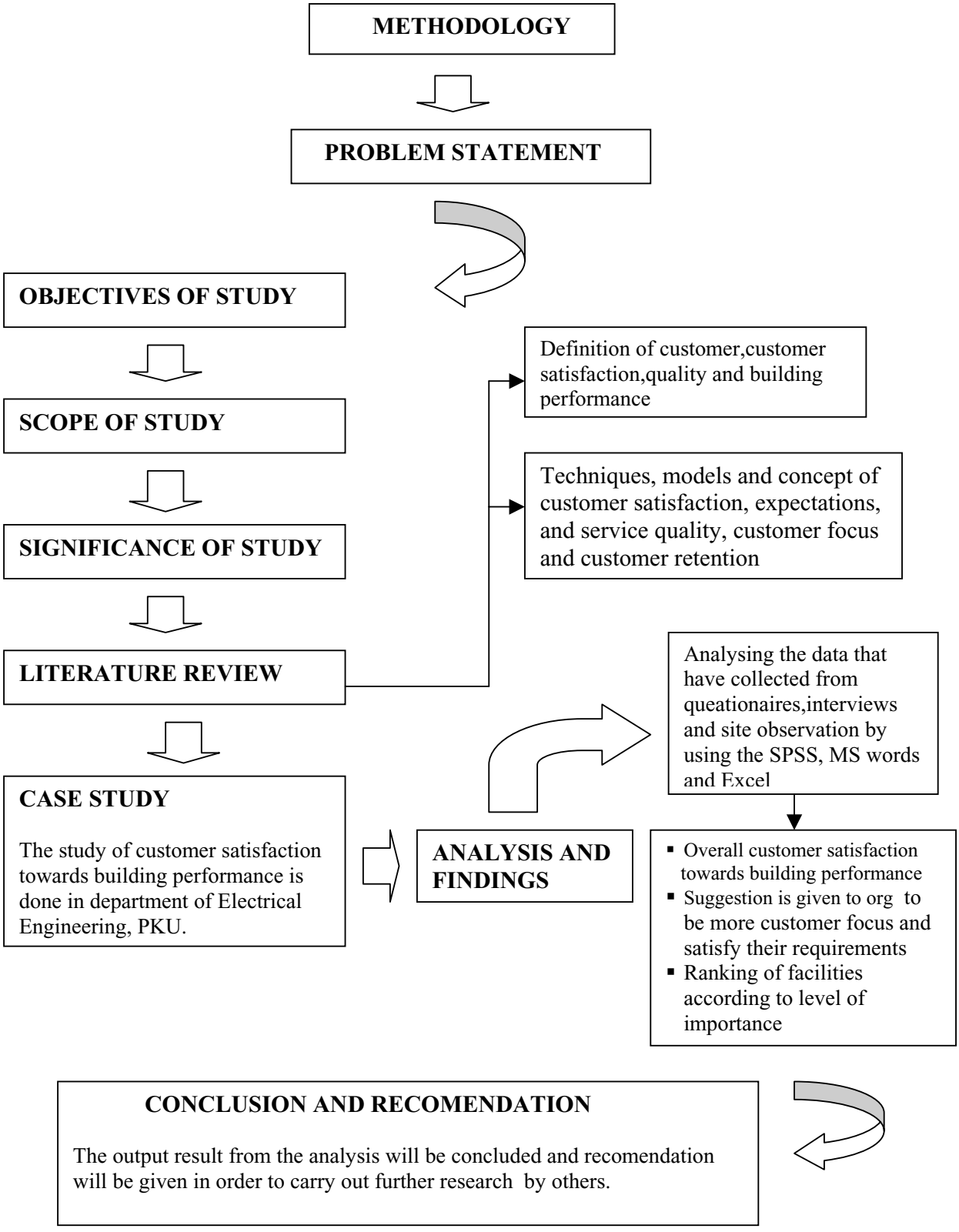

Figure 1.1: Methodology Flowchart

1.7 Chapter Layout

Chapter layout is the overall workflow in every chapter. The first stage is the Chapter 1 that is known as the introduction stage of this study. Amongst the key are covered problem statement, objectives, importance and scope of the study.

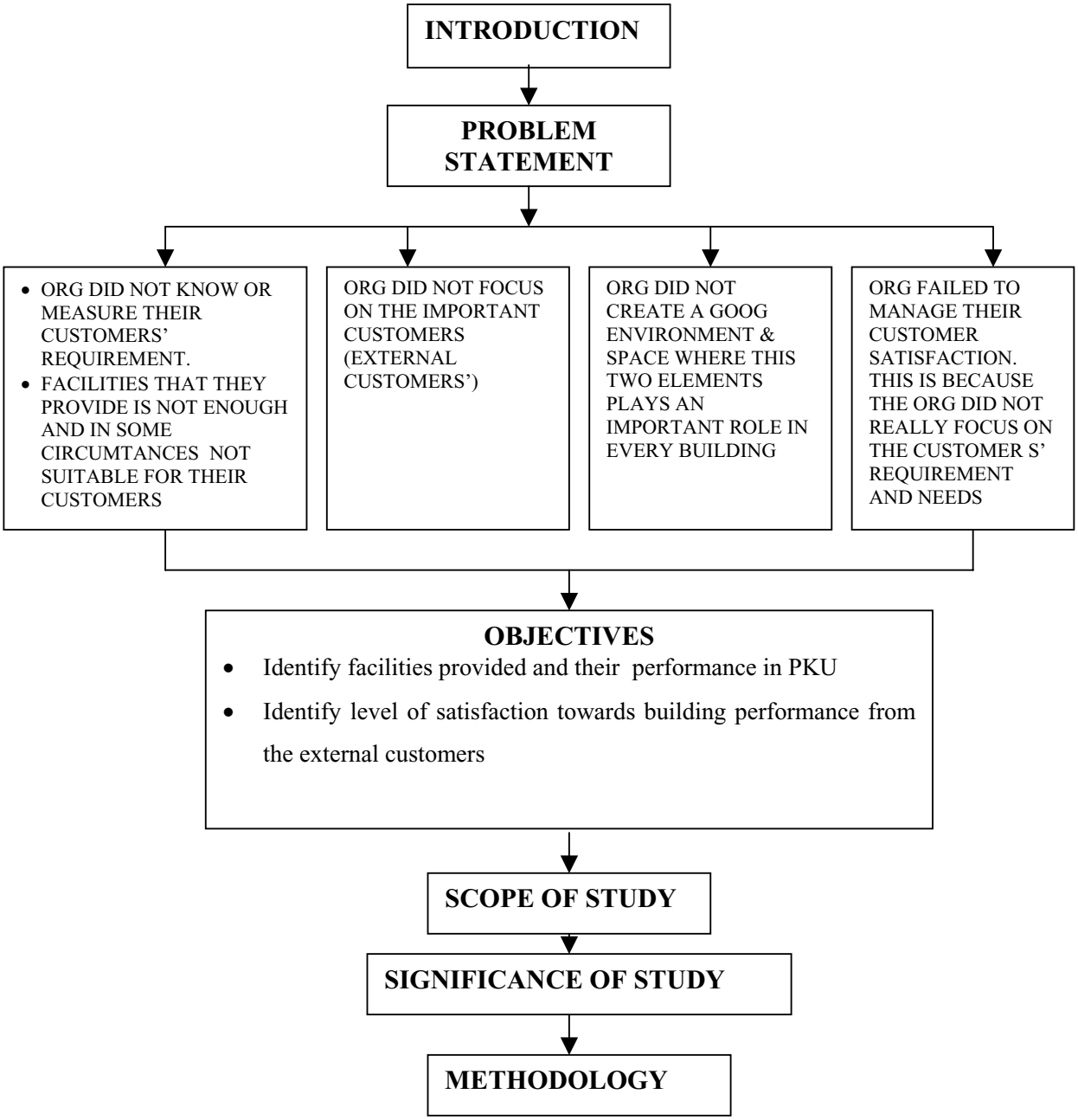

Figure 1.2: Workflow of Chapter 1

This is the second chapter in this study where it will concentrate on the theoretical or the literature part. It includes a brief introduction and definition of building performance, customer satisfaction, quality and service quality.

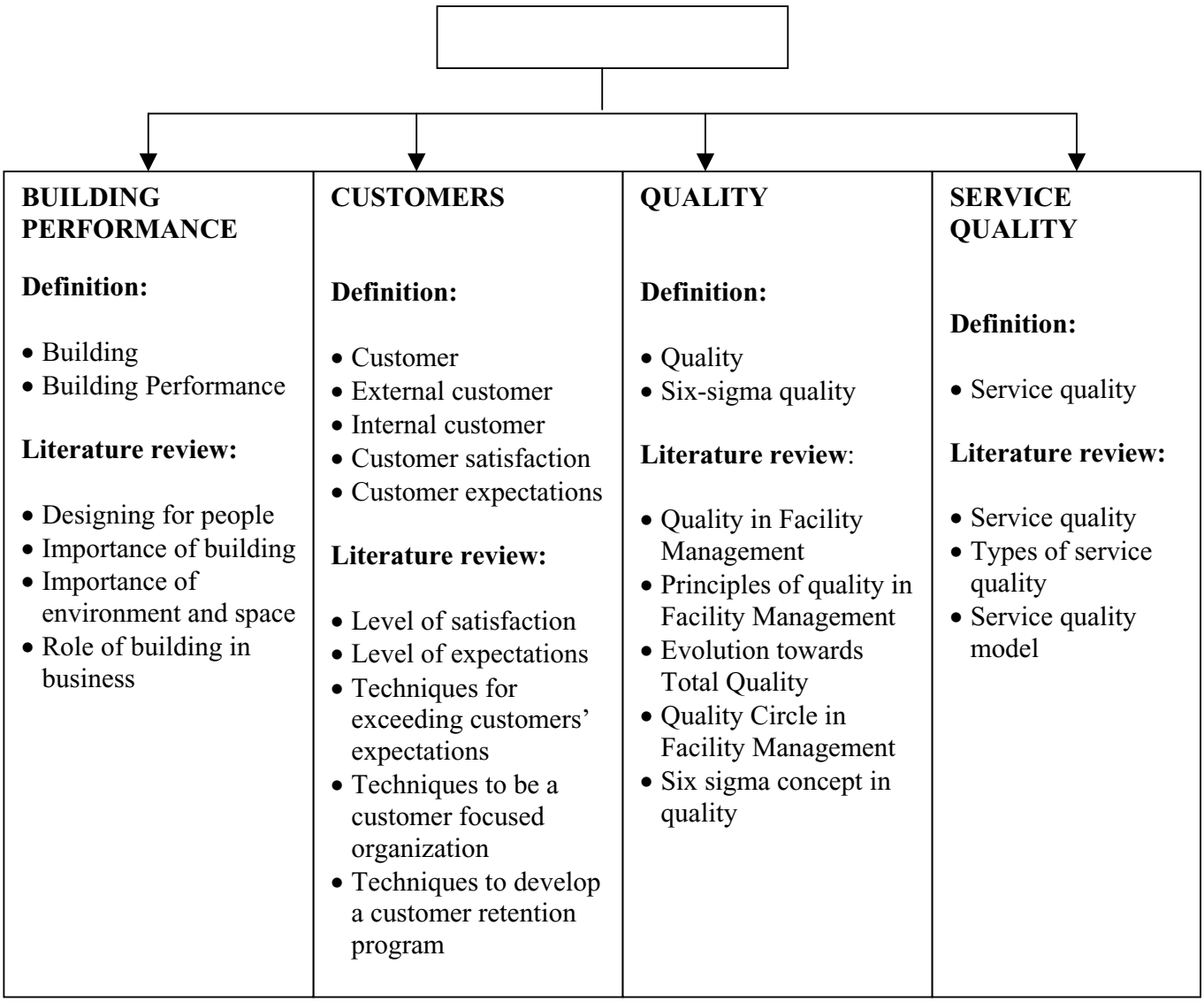

Figure 1.3: Workflow of Chapter 2

Chapter 3 is the third stage in this study. This chapter contains information, data collected and analysis on the case study, which is the Department of Electrical Engineering, PKU.

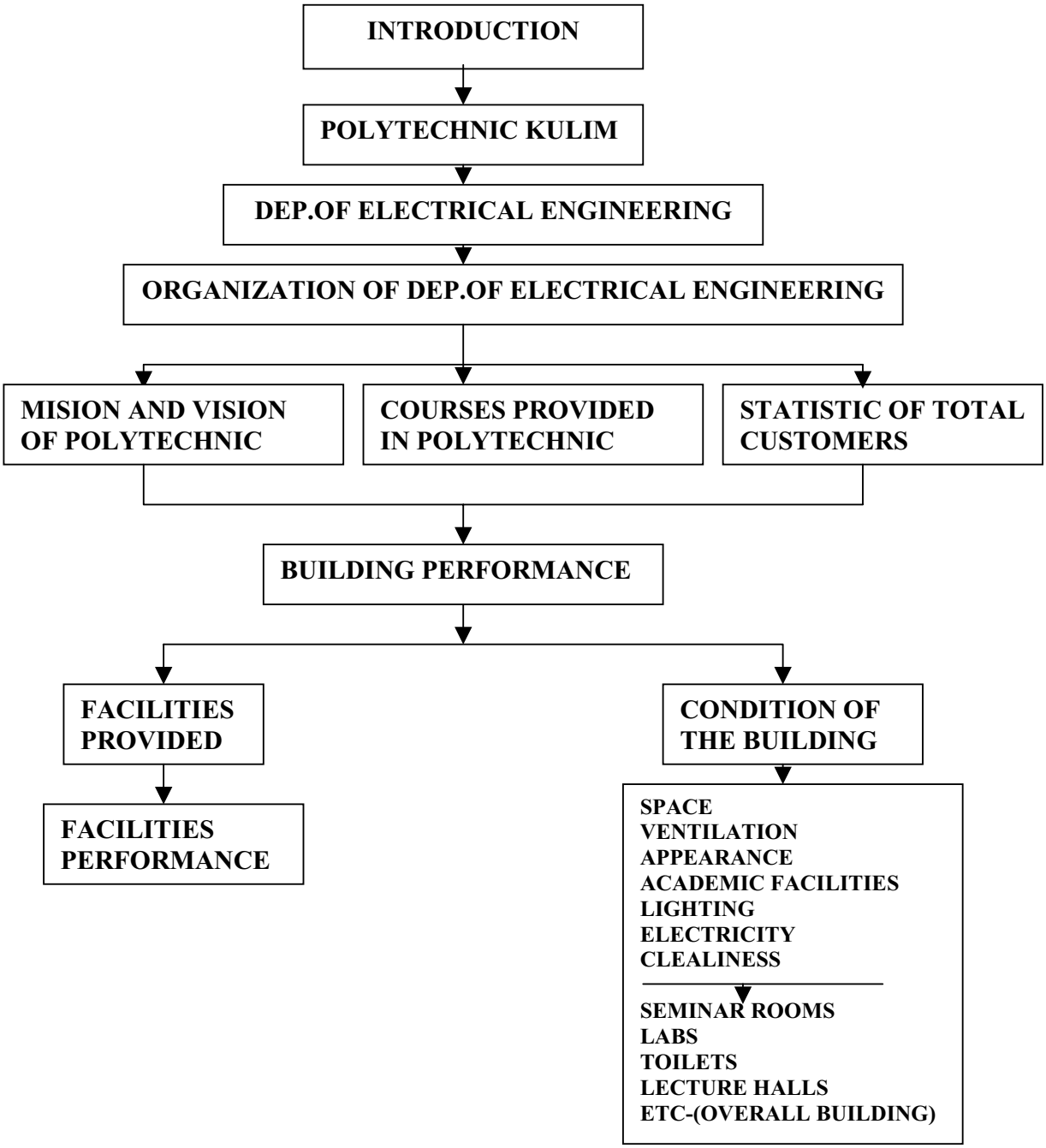

Figure 1.4: Workflow of Chapter 3

The fourth Chapter will discuss on the research tools on how the study is done in order to provide good results. Explanation about interviews, observation and questionnaires will be discussed.

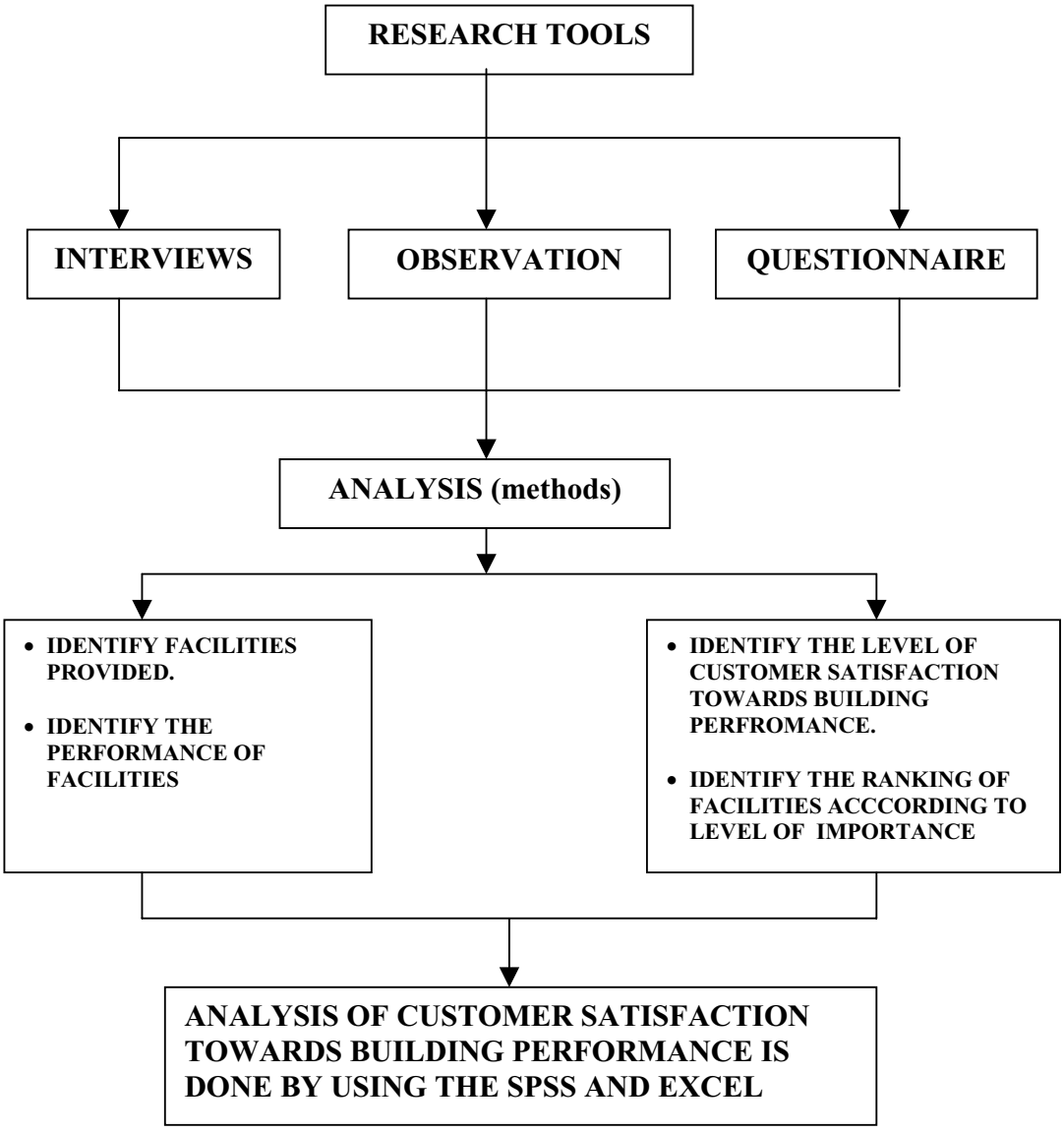

Figure 1.5: Workflow of Chapter 4

Meanwhile, chapter five is an important and most time consuming. In this stage, all the information and data that is received will be analyzed using the SPSS (Statistical Package for Social Science) in order to achieve the objectives. Besides that, the result from the analysis will show the level of customers' satisfaction and level of importance towards facilities.

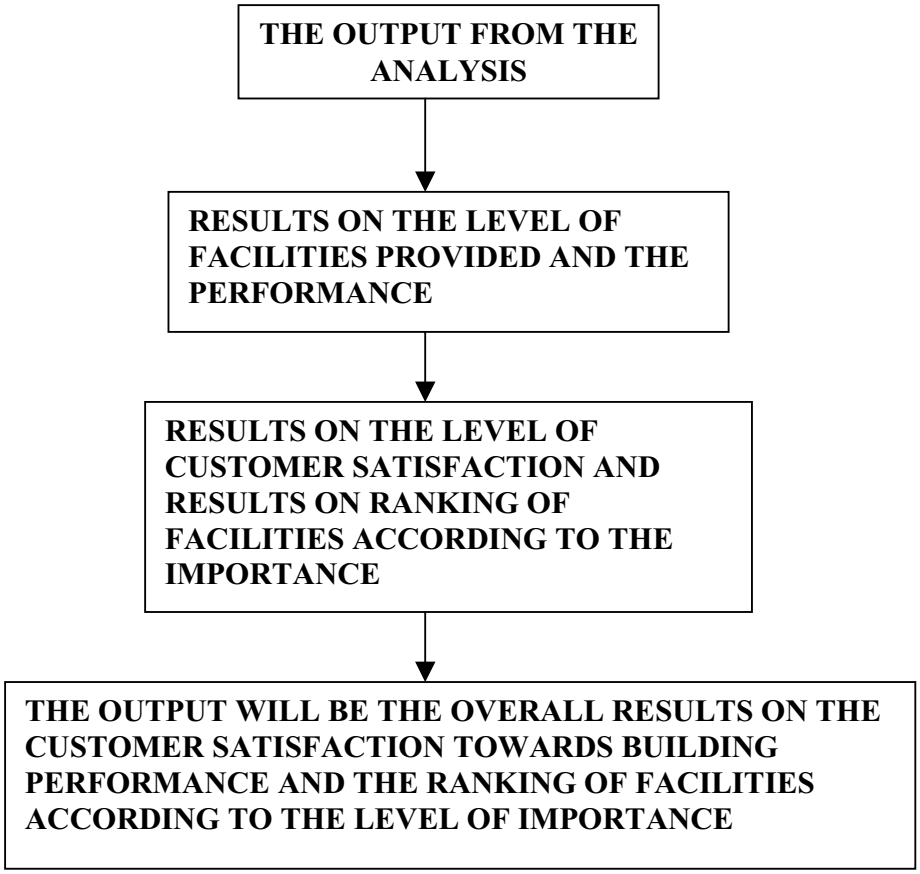

Figure 1.6: Workflow of Chapter 5

This is the final chapter in this study where summary on the findings is discussed. There will also be recommendation for further studies and conclusion in order to provide information on customers' satisfaction towards building performance effectively and efficiently.

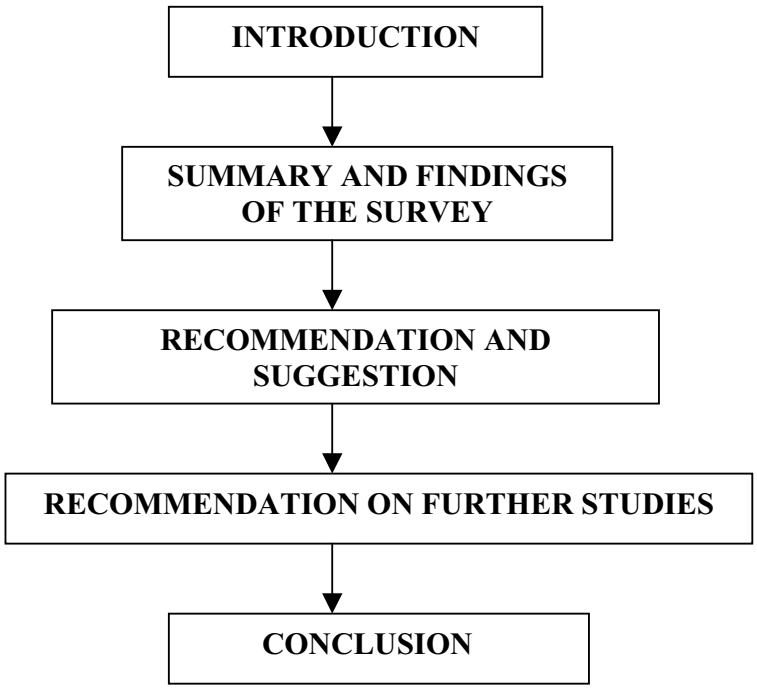

Figure 1.7: Workflow of Chapter 6

c) Landscape Management

Researcher can identify and create a good landscape where, study about external and internal environment can be done in order to provide healthy environment to the customers.

d) Computer Aided Facility Management

Furniture location, building design, cables, staff equipment and many other services in a building or portfolio of a building can be discussed.

6.5 Conclusion

As a conclusion, we can conclude that there is a mismatch between the indicators and organization's objectives. Meanwhile, analysis that has been done helped us in identifying the level of satisfaction towards building performance and objectives of study has been achieved in Chapter 3 and 5. From here, we know how effective organizations are.

On the other hand, we can say that, most of the students would like to have good facilities that can help them in their learning activities and they would like to have a good environment too, such as, in local universities and other institutions. To recap, hope that this study will benefits many parties in identifying their customer's needs. Meanwhile, PKU also needs to provide good facilities and fulfill their customers' requirement, in order to create high performance environment.

BIBLIOGRAPHY

BIBLIOGRAPHY

BOOKS:

1) Geoff Tennant **(2001)** *Six Sigma: SPC and TQM in Manufacturing and Services*. England: Gower Publishing Limited
2) Franklin Becker and Fritz Steele **(1995)** *Workplace by Design.* San Francisco: Jossey Bass Publishers
3) Timothy Keiningham and Terry Vavra **(2001)**. *The Customer Delight Principle.* New York: McGraw Hill Companies
4) Keith Alexander **(1996)** *Facilities Management.* London: E&FN Spon
5) Elaine K. Harris **(1996)**. *Customer Service- A Practical Approach.* New Jersey: Prentice Hall Ltd.
6) Ian Linton **(1998)**. *Creating a Customer Focused Company.* London: Pitman Publishing.
7) David G. Cotts **(1999)**. *The Facility Management Handbook–Second Edition.* America: AMACOM
8) Bob E. Hayes (1997). *Measuring Customer Satisfaction-Second Edition.* America: ASQ Quality Press.
9) David and Stanley **(2003)**. *Quality Management.* New Jersey: Prentice Hall Ltd
10) Jacques Horovits, Michele Jurgens Panak **(1992)**. *Total Customer Satisfaction.*
11) TA. Markus, P. Whyman, J. Morgan, D. Witten **(1972)** *Building Performance.*
12) Earl Naumann **(1994)** *Creating the Path to Sustainable Customer towards Competitive Advantage Value.*
13) Colin-Coulson Thomas **(1997)** *The Future Organization in Achieving Excellence through Business Transformation.*

JOURNALS:

1) Technical Council of Forensic Engineering **(1993)** "Journal of Performance of Constructed Facilities"

2) James Douglas **(1996)**. *Building Performance and its Relevance to Facilities Management*. Volume 14, pp 23-32: MCB University Press

3) Roland Kantsperger and Werner H. Kunz **(2005)**. *Managing Overall Service Quality.* Volume 16, pp 135-151: Emerald Group Publishing Ltd.

4) George Cairns **(2003)**. *Seeking a Facilities Management Philosophy for the Changing Workplace.* Volume 21, pp 95-105: MCB Up Ltd

5) Virginia Gibson **(2003)**. *Flexible Working Needs Flexible and Space?* Volume 21, pp 12-22: MCB Up Ltd.

6) Dilanthi Amaratunga and David Baldry **(2003)**. *A Conceptual Framework to Measure Facilities Management Performance.* Volume 21, pp 171-189: MCB Up Ltd.

7) Andrew Brown, John Hinks and John Sneddon **(2001)**. *The Facilities Management Role in new Building Procurement.* Volume 19, pp 119-130: MCB University Press.

8) Fides Matzdorf, Louis Smith and Helen Agahi **(2003)**. *The Impact of Facilities on Student Choice of University.* Volume 21, pp 212-222: MCB Ltd

9) Stephanie Coyles **(2005)**. *Customer retention is not enough.* Emerald group Publishing.

10) M. Loosemore and Y.Y. Hsin **(2001).** *Customer Focused Benchmarking For Facilities Management.* Volume 19, pp 464-475.

11) Steve Macaulay and Graham Clark **(1998)**. *Creating a Customer focused Culture: Some Practical Frameworks and Tools.* Volume 8, pp 183-188.

12) Mathew Joseph and Beatriz Joseph **(1997)** *Service Quality in Education: A Student Perspective.* Volume 5, pp 15-21.

13) Megan Walters **(1999**). *Performance Measurements Systems-A Case Study of Customer Satisfaction.* Volume 17, pp 97-104.

14) Albert H.C. Tsang **(1998)**. *A Strategic Approach to Managing Maintenance Performance.* Volume 4, pp 87-94

15) Steven Walczak **(2005)**. *Organizational knowledge management Structure.* Volume 12, pp 330-339.

16) Cephas Odini **(1994)**. *Collection Development: The Experience of Kenya Polytechnic Library.* Volume 15, pp 12-16.