

SERVICE QUALITY THROUGH EMPLOYEE  
KNOWLEDGE, SKILLS AND ABILITIES (KSAs): A  
STUDY AMONG THIRD PARTY LOGISTICS IN  
ISKANDAR MALAYSIA

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SERVICE QUALITY THROUGH EMPLOYEE KNOWLEDGE, SKILLS AND  
ABILITIES (KSAs): A STUDY AMONG THIRD PARTY LOGISTICS IN  
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## **DEDICATION**

I dedicate this thesis to

**Almighty ALLAH S.W.T,**

**My father (Roslan Bin Khairuddin), my mother (Nor AishahBintiYahya) and  
siblings,**

For your love, care and encouragement.

**My supervisor and co-supervisor,**

For your help, encouragement and guidance to ensure the success of this thesis.

**Friends,**

For your help and encouragement.

**And everyone who involves directly and indirectly in the process of completing  
this thesis.**

**Thank you.**

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## **ABSTRACT**

Logistics in Iskandar Malaysia has been one of the identified growth nodes and has been contributing high revenue through wholesale and retail trade (42.2%) and transport and related (12.7%). The main objectives of this study are to identify the necessary service quality dimensions that customers expect from the logistics service providers, to identify the gaps between customers' satisfaction and desire, and to explore knowledge, skills and abilities (KSAs) required for employees of logistics service providers to provide excellent services. Hence, this study is aimed to examine the service quality provided by third party logistics in Iskandar Malaysia. The scopes of this study are the customers from three pillars of Iskandar Malaysia that outsource their logistics activities, and human resource representatives from third party logistics service providers. This study used both quantitative and qualitative methods. The sampling method used for quantitative is quota sampling. The data obtained answered all three objectives of this study. There are six dimensions of service quality which they are tangible, reliability, responsiveness, assurance, empathy and service cost identified that are perceived to be necessary in third party logistics' service. There are positive gaps for all six dimensions of service quality between the expectation of the customers before receiving the services and the perception of the customers after they receive the services. Lastly, there are 7 variables identified to be under knowledge factor, 12 variables for skills factor, 9 variables for abilities factor and 4 variables for other factors that are required for employees of logistics services. The findings are expected to help third party logistics service providers to enhance their service quality in order to ensure the satisfaction of their customers.

## ABSTRAK

Logistik di Iskandar Malaysia telah menjadi salah satu daripada nodus pertumbuhan yang telah dikenalpasti dan telah menyumbang pendapatan yang tinggi melalui perdagangan borong dan runcit (42.2%), dan pengangkutan dan yang berkaitan (12.7%). Objektif utama bagi kajian ini adalah mengenalpasti dimensi kualiti perkhidmatan yang pelanggan harapkan daripada pembekal perkhidmatan logistik, mengenalpasti jurang di antara keinginan dan kepuasan pelanggan, dan meneroka pengetahuan, kemahiran dan kebolehan (KSAs) yang diperlukan pada pekerja-pekerja pembekal perkhidmatan logistik dalam memberikan perkhidmatan yang cemerlang. Sehubungan itu, kajian ini adalah bertujuan mengkaji kualiti perkhidmatan yang disediakan oleh pihak logistik ketiga di Iskandar Malaysia. Skop bagi kajian ini adalah pelanggan daripada tiga tunggak Iskandar Malaysia yang menggunakan khidmat luar bagi aktiviti logistik mereka, dan wakil sumber manusia daripada pihak ketiga pembekal perkhidmatan logistik. Kajian ini menggunakan kedua-dua kaedah iaitu kuantitatif dan kualitatif. Kaedah persampelan yang digunakan untuk kuantitatif adalah persampelan kuota. Data yang diperoleh telah menjawab kesemua objektif kajian. Terdapat enam dimensi kualiti perkhidmatan yang telah dikenalpasti iaitu nyata, realibiliti, maklum balas, keyakinan, empati dan kos perkhidmatan yang dilihat sebagai penting dalam perkhidmatan oleh pihak ketiga logistik. Terdapat jurang kepuasan yang positif bagi kesemua enam dimensi kualiti perkhidmatan di antara harapan pelanggan sebelum menerima perkhidmatan dengan persepsi pelanggan selepas menerima perkhidmatan. Akhir sekali, terdapat 7 pembolehubah yang dikenalpasti di bawah faktor pengetahuan, 12 pembolehubah bagi faktor kemahiran, 9 pembolehubah bagi faktor kebolehan, dan 4 pembolehubah bagi faktor lain-lain yang diperlukan pada setiap pekerja perkhidmatan logistik. Dapatan kajian ini dijangkakan dapat membantu pihak ketiga pembekal perkhidmatan logistik dalam memajukan perkhidmatan mereka bagi memastikan kepuasan pelanggan.

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**LIST OF ABBREVIATION**

3PL	-	Third Party Logistics
IDR	-	Iskandar Development Region
IM	-	Iskandar Malaysia
IRDA	-	Iskandar Regional Development Authorities
JSIC	-	Johor State Investment Centre
CS	-	Customers' Satisfaction
KSAs	-	Knowledge, Skills and Abilities
SPSS	-	Statistical Package Social Science
SQ	-	Service Quality
TQM	-	Total Quality Management

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## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Introduction**

This chapter introduces research background, problem statement, research questions, research objectives, research limitations, research significance, and thesis structures; followed by the conclusion of this chapter. Research background focuses on Iskandar Malaysia, logistics activities and human capital development. The problem statement is based on the impact of knowledge, skills and abilities (KSAs) among employees of logistics service providers' in Iskandar Malaysia in delivering best service quality in order to gain customers' satisfaction to gain competitive advantages. The objective of this research is identifying KSAs that is required from logistics' human capital and the relationship between logistics service quality and customers' satisfaction. This chapter discusses further information of this research.

#### **1.2 Research background**

Malaysian fourth Prime Minister, Tun Dr Mahathir bin Mohamad came out with Vision 2020 during the tabling of Sixth Malaysia Plan in 1991. The vision is targeted to be the achievement of self-sufficient industrialized nation by the year of 2020 and to gain eightfold Gross Domestic Product (GDP) from RM115 billion in 1990 to

RM920 billion (Muhammad, Sulaiman & Sanusi, 2012; Eleventh Malaysia Plan (11<sup>th</sup> MP), 2015). In order to achieve the vision, five regional corridors have been initiated in order to propel the economic growth. These five regional economic corridors are Northern Corridor Economic Region (NCER); East Cost Economic Region (ECER); Sarawak Corridor of Renewable Energy (SCORE); Sabah Development Corridor (SDC); and Iskandar Malaysia (Muhammad *et al.*, 2012). These five corridors were initiated during the Ninth Malaysia Plan by Malaysia fifth Prime Minister, Tun Abdullah Ahmad Badawi and it embarked a number of initiatives to promote balanced regional development and accelerate growth in designated geographic areas (Tenth Malaysia Plan (10<sup>th</sup> MP), 2010).

In realizing the importance of the human capital development, Dato Seri Najib Tun Abdul Razak, current Prime Minister, pursued a strategy which is called as Economic Transformation Programme (ETP) that focused on human capital development and it is predicted that business growth are based from human capital. Human capital is the most crucial factor in economic growth and it is critical to the success of economic growth in Malaysia (Muhammad *et al.*, 2012). Therefore, the rapid growth of economy in global market does take human resource as a key role in maintaining competitive business in industry.

The Human Capital Development Strategic Reform Initiative (SRI) in ETP has two key areas, which they are Education National Key Economic Area (NKEA) and National Key Reformation Area (NKRA), both focused on the future generations, and it is a critical enabler for this nation to transform the workplace as well as the workforce (Muhammad *et al.*, 2012). Malaysia's economy will undergo significant changes similar to other developed nations if the implementation of ETP succeeded. The most required changes will be the enhancement of human capital investments to support a high-skilled, knowledge-based and innovation-intensive economy (Muhammad *et al.*, 2012). Furthermore, in 11<sup>th</sup> Malaysia Plan (2015) human capital development is a critical enabler for driving and sustaining the Malaysia's economic growth which the 11<sup>th</sup> Malaysia Plan will continue to push the agenda of producing human capital that is equipped with the right knowledge, skills and attitudes to growth in a globalised economy.

Furthermore, in order to compete, strong emphasis on human capital development will sustain and ensures a steady and sufficient supply of skilled and semi-skilled manpower to meet the needs of the expanding industrial and service

sectors. Skilled workforce is vital for the economic development especially in these fast-changing requirements in identifying the future supply and demand for human capital. In addition, to sustain the economic growth in an increasingly competitive business environment is to have skilled and knowledgeable workers as one of the important factors (Muhammad *et al.*, 2012).

A skilled, knowledgeable, and able to provide best service workforce leads to high quality of service, hence, keep the customer happy and satisfied with the services. The original SERVQUAL model used to evaluate service quality is from Parasuraman *et al.* (1988) that has five dimensions, consist of tangible, reliability, responsiveness, assurance, and empathy. However, according to Banomyong and Supatn (2010), for logistics service sectors, the SERVQUAL model needs to add service cost as additional dimension to the five dimensions earlier.

This study is focuses on Iskandar Malaysia, one of the economic corridors. Iskandar Malaysia is located in southern peninsular Malaysia and it covers a land size of 2,217 sq km (221,634 hectares). In 2005, Iskandar Malaysia was estimated to have 1.35 million people or in 43% of Johor's population with the workforce of approximately 66% of the population (Iskandar Development Region, 2007).

### **1.3 Problem statement**

Based on latest Logistics Performance Index (LPI) for 2014, Malaysia is at the 25<sup>th</sup> rank in the world with range index of 3.59 compared to Singapore, which is currently at the 5<sup>th</sup> rank in the global logistics activity with range index of 4.00 (The World Bank, 2015). There are six core dimensions that contribute to the average index of LPI. Those dimensions are customs, infrastructure, international shipments, logistics competence, tracking and tracing, and timeliness. The data obtained from The World Bank (2015) are as shown in figure 1.1.

Country	Year	LPI Rank	LPI Score	Customs	Customs	Infrastructure	Infrastructure	International shipments	International shipments	Logistics competence	Logistics competence	Tracking & Visibility	Tracking & Visibility	Timeliness	Timeliness
Germany	2014	1	4.12	2	4.1	1	4.32	4	3.74	3	4.12	1	4.17	4	4.36
Netherlands	2014	2	4.05	4	3.96	3	4.23	11	3.64	2	4.13	6	4.07	6	4.34
Belgium	2014	3	4.04	11	3.8	8	4.1	2	3.8	4	4.11	4	4.11	2	4.39
United Kingdom	2014	4	4.01	5	3.94	6	4.16	12	3.63	5	4.03	5	4.08	7	4.33
Singapore	2014	5	4	3	4.01	2	4.28	6	3.7	8	3.97	11	3.9	9	4.25
Sweden	2014	6	3.96	15	3.75	9	4.09	3	3.76	6	3.98	7	3.97	8	4.26
Norway	2014	7	3.96	1	4.21	4	4.19	30	3.42	1	4.19	31	3.5	5	4.36
Luxembourg	2014	8	3.95	10	3.82	15	3.91	1	3.82	14	3.78	22	3.68	1	4.71
United States	2014	9	3.92	16	3.73	5	4.18	26	3.45	7	3.97	2	4.14	14	4.14
Japan	2014	10	3.91	14	3.78	7	4.16	19	3.52	11	3.93	9	3.95	10	4.24
Ireland	2014	11	3.87	12	3.8	16	3.84	27	3.44	9	3.94	3	4.13	16	4.13
Canada	2014	12	3.86	20	3.61	10	4.05	23	3.46	10	3.94	8	3.97	11	4.18
France	2014	13	3.85	18	3.65	13	3.98	7	3.68	15	3.75	12	3.89	13	4.17
Switzerland	2014	14	3.84	7	3.92	11	4.04	15	3.58	16	3.75	18	3.79	21	4.06
Hong Kong, China	2014	15	3.83	17	3.72	14	3.97	14	3.58	13	3.81	13	3.87	18	4.06
Australia	2014	16	3.81	9	3.85	12	4	18	3.52	17	3.75	16	3.81	26	4
Denmark	2014	17	3.78	13	3.79	17	3.82	9	3.65	18	3.74	36	3.36	3	4.39
Spain	2014	18	3.72	19	3.63	20	3.77	21	3.51	12	3.83	26	3.54	17	4.07
Taiwan	2014	19	3.72	21	3.55	24	3.64	5	3.71	25	3.6	17	3.79	25	4.02
Italy	2014	20	3.69	29	3.36	19	3.78	17	3.54	23	3.62	14	3.84	22	4.05
Korea, Rep.	2014	21	3.67	24	3.47	18	3.79	28	3.44	21	3.66	21	3.69	28	4
Austria	2014	22	3.65	23	3.53	25	3.64	40	3.26	26	3.56	10	3.93	23	4.04
New Zealand	2014	23	3.64	6	3.92	22	3.67	8	3.67	27	3.56	38	3.33	40	3.72
Finland	2014	24	3.62	8	3.89	28	3.52	20	3.52	19	3.72	39	3.31	38	3.8
Malaysia	2014	25	3.59	27	3.37	26	3.56	10	3.64	32	3.47	23	3.58	31	3.92
Portugal	2014	26	3.56	31	3.26	31	3.37	29	3.43	20	3.71	20	3.71	35	3.87

Figure 1.1: Logistics Performance Index (LPI) global ranks year 2014 from The World Bank.

Table 1.1: Logistics performance index (LPI) global ranking score for Malaysia and Singapore

Country	LPI Rank	LPI Score	International Shipments Rank	International Shipments Score	Logistics Competence Rank	Logistics Competence Score
Malaysia	25 <sup>th</sup>	3.59	10 <sup>th</sup>	3.64	32 <sup>nd</sup>	3.47
Singapore	5 <sup>th</sup>	4.00	6 <sup>th</sup>	3.7	8 <sup>th</sup>	3.97

As shown in the table 1.1 above, even though the ranks between Malaysia and Singapore for international shipments are at 10<sup>th</sup> and 6<sup>th</sup> in the world, however, for logistics competence, Malaysia currently at 32<sup>nd</sup> place compared to Singapore at 8<sup>th</sup> rank. According to The World Bank (2015), logistics competence represents competence and quality of logistics service such as transport operators and custom brokers. From the ranking, it shows that Malaysia is still left behind especially in logistics competencies.

Therefore, in order to compete with Singapore that use the same shipping lane as Malaysia, Malaysia needs to improve the quality in giving the services and have better employees' competencies. This problem is recognized by the government and led to the launched of ETP. According to Muhammad *et al.* (2012), the two main components in ETP are to enhance Human Capital Development Strategic Reform Initiative that will be the critical enabler of Malaysia transformation by up-skilling and upgrading the workforce. The strategy of ETP focuses on five regional economic

corridors and one of it is Iskandar Malaysia. The current Prime Minister announced various incentives in order to encourage human capital development to move Malaysia's economy to the higher level and achieve Vision 2020 (Muhammad *et al.*, 2012). This encouragement is aligned with services sectors that contribute more than half of Malaysia's GDP (51%), in which this sector needs to have competent manpower (PricewaterhouseCoopers, 2012).

This study focuses on Iskandar Malaysia as it has been contributing a high percentage in committed investments, and area of logistics has been one of the six identified growth nodes besides areas of education, healthcare, finance, creative industry, and tourism. Therefore, skilled human capital is essential for Malaysia's economic growth in general, and particularly in the economic region. Human capital is generally seen as a set of knowledge, skills and abilities (KSAs) of an individual that are used in the activities that stimulate economic growth and development (Muhammad *et al.*, 2012). The other reason for this research to be conducted in Iskandar Malaysia is because it is the nearest location to Singapore compared to another four regions. In addition, Iskandar Malaysia is rapidly growing for the past seven years since 2006 (Tek *et al.*, 2013).

Logistics has become a significant role in supporting export activities in rapid growth of global market (Banomyong & Supatn, 2011). According to IM Biz Watch (2013), logistics sectors in Iskandar Malaysia contribute to the committed investment by RM4.81 billion. Due to the international logistics services, logistics has become effectively as third party logistics service providers. According to Banomyong *et al.*, (2011), in order to compete in the logistics market, many freight companies rebranded themselves into third party logistics (3PL).

Logistics service quality plays a significant role in determining customers' satisfaction, loyalty as well as long-term relationship (Banomyong *et al.*, 2011). There are many researches done related to service quality in logistics sectors. For example, Banomyong *et al.*, (2011) is one of it. Banomyong *et al.*, (2011) determines that there are six dimensions of SERVQUAL model for the logistics sector. They are tangible, reliability, responsiveness, assurance, empathy and service cost. Even though this research was done at South East Asia countries, however, Malaysia was not included. There are few studies were done in Malaysia about service quality. However, most of it covers banking, and sales and marketing sector. There are lack of researches done in logistics sector specifically in Malaysia. Furthermore, there is

also lack of researches specifically in Iskandar Malaysia's logistics sectors in order to improve service quality of logistics sectors in that area. Therefore, this research aims to identify customers' satisfactions towards third party logistics companies in Iskandar Malaysia in order to provide better service and retain their customers.

Previous research by Shieh *et al.* (2010) has identified that there is a relationship between the performances applied based on knowledge, skills and abilities (KSAs) and service quality. This shows that KSAs and dimensions of service quality do have strong relation in order to determine customer satisfaction. Furthermore, according to Hancemark *et al.* (2004), they stated that there is a relationship between employees' competencies with the service quality, hence, triggers customers' satisfactions and loyalty. The experience and the attitudes of a person or individual who has a direct contact with customers are likely to influence the customers' satisfaction and loyalty.

Thus, in conclusion, this research further study the Iskandar Malaysia's third party logistics employees' KSAs required to deliver better service quality in order to achieve customers' satisfaction.

#### **1.4 Research questions**

Based on the problem statements above, these are the research questions obtained for this study.

- i. What service quality dimensions do customers perceive to be necessary in Iskandar Malaysia's 3PL service companies to meet customers' satisfaction?
- ii. Is there any gap between service quality dimensions of 3PL towards customers' satisfaction?
- iii. What are the elements of KSAs required to provide excellent service among employees of logistics service providers?

## **1.5 Research objectives**

From previous research questions, this study comes out with four research objectives.

- i. To determine service quality dimensions that customers perceive to be necessary in Iskandar Malaysia's 3PL service companies to meet customers' satisfaction.
- ii. To identify the gaps between service quality dimensions of 3PL towards customers' satisfaction.
- iii. To explore the elements of KSAs required for employees of logistics service providers to provide excellent service.

## **1.6 Research Scope**

This research is to evaluate service quality of third party logistics service providers in Iskandar Malaysia by evaluating SERVQUAL model with six dimensions, which they are tangible, reliability, responsiveness, assurance, empathy and service cost, and to explore their employees' knowledge, skills and abilities (KSAs). This research covers the area of Iskandar Malaysia (IM), which consists of Johor Bharu, Kulaijaya, and three districts from Pontian, Johor, Malaysia.

Unit of analysis consists of two approaches, quantitative and qualitative. The first phase is quantitative method which focuses on the customers' satisfaction towards logistics service providers' service quality. Questionnaires were distributed to the customers of IM logistics service providers which cover three pillars; Electrical and Electronics, Petro and Oleo Chemical, and Food and Agro Processing. The second phase is qualitative method in exploring employees' KSAs which it involves interview sessions with HR Managers or representatives of third party logistics (3PL) service companies of IM that provide outsourcing logistics activities such as transportation, warehouses and distribution centres.

## 1.7 Thesis structure

This thesis is structured as follows:

Chapter 1 consists of introduction about research topic, research background, problem statement, research questions, research objectives, research scope, the conceptual framework for this study, significance of study, and brief explanation of thesis structure for each five chapters.

Chapter 2 consists of literature review that explains about the relevant previous research that related with this research. The content of this chapter consists of the explanation of the definition of logistics and third party logistics in depth, and also its contribution to the global market. Human capital development is also explained in this chapter. Furthermore, the background of knowledge, skills and abilities (KSAs) is explained further as well as the connection of KSAs in logistics sector. Previous research about the relationship between customers' satisfaction and KSAs of the service providers is included in this chapter.

Chapter 3 explains the methodology of this research. This techniques and method were used to achieve research objectives. This chapter covers the explanation about research design, sampling method, targeted group method, content of questionnaires, data collection procedure, controlled and statistics analysis procedure that are used in order to achieve research objectives.

Chapter 4 explains about the data analysis from both approaches. These questionnaires have been distributed to the clients of Iskandar Malaysia and interviews were held with the HR Manager or representatives of third party logistics in Iskandar Malaysia. In this chapter, the questionnaire are analysed to answer the first two research objectives. In order to do so, there are several analyses were done by using IBM SPSS such as descriptive analysis, multiple response analysis, gap and quadrant analysis, and paired t-test analysis. As for the third research objective, transcription analysis was conducted in order to explore the variables of knowledge, skills and abilities required in logistics services sector.

Chapter 5 consists of discussion on the research findings and result whereby it was explained further and had short summary at the end of the discussion. The limitations and problems that encountered during the whole process of collecting data, suggestions and further research were also included in this last chapter.

## **1.8 Conclusion**

This research aims to identify the required employees' knowledge, skills and abilities (KSAs) of third party logistics companies in Iskandar Malaysia to deliver best service quality to their customers. This research has contributed positive impact to logistics service providers in Iskandar Malaysia to improve and upgrade their quality of services towards their customers' satisfaction.

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1 Introduction

Iskandar Malaysia is the closest development region to Singapore. According to Mecometer (2014), Singapore leads on the fifth rank of global Logistic Performance Index (LPI) whereas Malaysia is at the 25<sup>th</sup> rank. Logistics is one of the services sectors that contribute to the GDP and services sectors are the sectors that empowered by manpower. In order to deliver best service quality, it is essential to first to know what are the dimensions of service quality that are crucial to gain customers' satisfaction. The best service quality is initiated by the workforce itself. Human Capital Development Strategic Reform Initiative (SRI) is one of the elements in ETP that will initiate the transformation of the workplace as well as the workforce (Muhammad *et al.*, 2012). Human capital development is strongly emphasized to ensure a steady supply of manpower with knowledge, skills and abilities (KSAs) in industrial and services sectors.

## 2.2 What is quality?

The definition of quality has evolved over the years and it varies from one person to another and it depends heavily on the nature of the industry (Antony, 2013). He added that:

*'We have also witnessed a change in the role of the quality function over the years from merely inspection activities to quality control to quality assurance to total quality management (TQM) to Six Sigma as a powerful strategy to reduce defects at low costs and maximise customer satisfaction.'* (Antony, 2013:677).

Goetsch & Davis (2010) stated that, for people who want to understand total quality, must first understand what quality is. They also stated that quality can be defined and measured because customers can define quality very clearly by using specifications, standards, and other measures. However, there is no specific definition of quality, but there are similarities that exist among the definitions.

There are three similar definitions of quality stated by Goetsch & Davis (2010), and supported by other researchers, which, i) quality involves meeting and exceeding customer expectations (Sadikoglu & Olcay, 2014; Talib *et al.*, 2013; Antony, 2013; Gharakhani *et al.*, 2013; Steiber & Alänge, 2012; Boateng-Okrah & Fening, 2012), ii) quality applies to products, services, people, processes, and environments (Sadikoglu & Olcay, 2014; Antony, 2013; Gharakhani *et al.*, 2013; Talib *et al.*, 2013; Steiber & Alänge, 2012; Boateng-Okrah & Fening, 2012; Yapa, 2012), and, iii) quality is an ever-changing state (Psomas & Jaca, 2016; Sadikoglu & Olcay, 2014; Antony, 2013; Gharakhani *et al.*, 2013; Talib *et al.*, 2013; Steiber & Alänge, 2012; Yapa, 2012). Goetsch & Davis (2010) sums the definition of quality as:

*'Quality is a dynamic state associated with products, services, people, processes, and environments that meets or exceeds expectations and help produce superior value'*. (Goetsch & Davis, 2010:5).

### 2.3 Total Quality Management

As mentioned in the introduction earlier, to emphasize the best service provided, we need first to know the root cause in delivering the best service quality. Total quality management (TQM) is basically a management approach that started originally in 1950s. It has been used since, and became popular in 1980s (Padhi, 2016). TQM is also called as management philosophy in emphasizing customer needs by improving the quality of the product/services/processes (Gharakhani, Rahmati, Farrokhi, & Farahmandian, 2013; Sadikoglu & Olcay, 2014; Steiber & Alänge, 2012). According to Kantardjieva (2015), many researchers consider TQM as the leading management philosophy that improves company's position and their performance.

The emergence of ISO as a quality management system standard has been seen in 1980s which was designed to help organisations to ensure that they meet the needs of customers and other stakeholders while meeting statutory and regulatory requirements related to the product/service. Then, the evolution of TQM evolved in the mid to late 1980s as a management system for a customer-focused organisation that involves total employee participation in continual improvement (Antony, 2013). According to Brown (1996):

*'Total Quality Management (TQM) is very much the term of the 1990s. While much of the theory which underlines TQM is not new, the 'packaging' has helped it assume a great deal of prominence in recent times. It is frequently promoted as the key to business survival in an increasingly competitive, quality and cost-conscious world. TQM has potentially significant implications for human resource management (HRM) in organizations.'* (Brown, 1996:117).

In today's competitive business world it is very important to adopt TQM principles not only for making profits but also for survival (Yapa, 2014). Furthermore, Gharakhani *et al.*, (2013) stated that TQM is considered as a very important factor for the long-term success of an organization. They also stated that:

*'TQM implementation has been an important aspect for improving organisational efficiency. The links between TQM and performance have been investigated by numerous scholars. While examining the relationship between TQM and performance, scholars have used different performance*

*types such as financial, innovative, operational and quality performance. Recent research on total quality management has examined the relationships between the Total quality management and organizational performance. TQM focuses on continuous process improvement within organizations to provide superior customer value and meet customer needs.*'(Garakhani *et al.*, 2013:46).

In order to meet customer needs and gain customer satisfaction, Sadikoglu & Olcay (2014) and Steiber & Alänge (2012) highlighted that quality management is a continuous process that contributes to the organizations' efficiency, effectiveness and the firms' performance. Furthermore, the most notably and a recommended approach in an attempt to improve quality is the concept of TQM, the management of quality and continuous improvement (Brah & Lim, 2006; Talib, Rahman, & Qureshi, 2013). According to Gharakhani *et al.*, (2013), TQM begins with the primary assumption that employees in organizations must cooperate with each other in order to achieve quality for the needs of the customer. One can achieve quality by controlling manufacturing/service processes to prevent defects. Hence, TQM focuses on continuous process improvement within organizations to provide superior customer value and meet customer needs (Gharakhani *et al.*, 2013; Padhi, 2016).

Quality improvement has become one of the most important organizational strategies for achieving competitive advantage for the past decade. It will enhance the organization to deliver its products and services critically and compete in the expanding global market and rapidly changing environment (Gharakhani *et al.*, 2013; Steiber & Alänge, 2012). According to Steiber & Alänge (2012), there will be a partly new management paradigm needed in order for TQM to contribute both to continuous improvement and continuous. However, if there are any changes in TQM, the brand 'TQM' is still associated with 'quality' and 'continuous improvement' (Steiber & Alänge, 2012).

## 2.4 Service quality

According to Bank Negara Malaysia (2012), services sector account more than half of GDP Malaysia's value with the percentage of 51. Therefore, in providing the best service quality is essential in order to contribute to Vision 2020. However, quality is an elusive and indistinct construct (Parasuraman *et al.*, 1985). There are very little researches have been done on the issue of service quality assessment (Hemmasi *et al.*, 2010). Thus, the developed model of service quality by Parasuraman *et al.* (1985, 1988) has become most used model in measuring service quality and provides better service in the services firms (Hemmasi *et al.*, 2010).

Quality of a product or service is essential. According to Fečiková (2004), the customer satisfaction towards the quality of certain services will determine the company's failure or success. Furthermore, it also comes to believe that the quality service will determine loyal customer to the certain company and further gaining profits. Hemmasi *et al.*, (2010) stated that manufacturing firms had their own benchmark that was used to compare their goods while service activities do not have these form of analysis because of its inherent intangible nature. However, there are a few opinions stated that service quality can be interpreted from the difference of customer expectation towards experienced services and customer perception towards received services (Munusamy *et al.*, 2010). This is because the service quality perceptions involve the process of service delivery as well as the outcome (Hemmasi *et al.*, 2010). The encouragement in increasing service quality is a continuous process as understanding various customers wants and desires (Banomyong *et al.*, 2011).

Basically, service quality is more difficult to measure or evaluate than the quality of goods. However, it has come to a conclusion that service quality can be measured by the results from the comparison of actual service performance with the level of expected services as an equation below (Hemmasi *et al.*, 2010). In addition, the original model of service quality captured difference scores, or gaps, between the customer perceptions of actual performance and the customer expectations of how the performance should be. Below is the equation of service quality by Parasuraman *et al.*, (1985):

Service quality = f(Performance – Expectations).

Parasuraman *et al.*, (1985) mentioned that quality in tangible goods has been described and measured while quality in services is largely undefined and un-researched. Thus, they had been rectified by reporting and developing a model of service quality because previously, few academic researchers found difficulties in involved in delimiting and measuring the content of the model (Parasuraman *et al.*, 1985). Since then, there are many researchers used the same model originally from Parasuraman *et al.* (1985), as they stated that this particular model is the most precised model in determining a service quality (Rauyruen *et al.*, 2007; Baki *et al.*, 2009; Banomyong *et al.*, 2011). This is because of the overall aspect covered by Service Quality (SERVQUAL) model are the best so far.

However, there are several researchers who modified this original model to fit with their research objectives. Banomyong *et al.*(2011) claimed that there are seven rights for logistics transportation service quality, and they are products, quantity, time, situation, consumer, place and cost. Following of the seven rights, the main four logistics components were developed in order to give the picture of service quality of logistics transportation. Each of these research has been using SERVQUAL original model and derived it to be more suitable for logistics services sectors.

#### **2.4.1 Logistics service quality**

Outsourcing of logistics activities to the third party logistics has been most current activity in business environment (Jharkaria *et al.*, 2007). Banomyong *et al.* (2011) stated that, due to the rapid growth of global market, freight companies had rebranded their name into third party logistics service providers in order to compete and to lead the market. In order to compete, the 3PL must deliver the best services. Thus, to perform the best service quality, the organizations first needs to define the service quality and its components which are actionable in the workplace (Technopreneurship, 2007). They added that, employees that do not have a clear and unambiguous definition and will be left with vague instructions on improving service quality within the workplace.

Perreault & Russ (1974; 1976) proposed that logistics activities create time, place and form utilities, thereby enhancing product value. This was further extended by describing the seven (7) Rs of utility creation by logistics services: delivering the right amount, the right product, at the right place, in the right condition, at the right time, with the right information, and at the right price (Coyle *et al.*, 1992; Shapiro & Heskett, 1985; Stock & Lambert, 1987). Logistics service quality research continues to develop by emphasizing that delivery service quality consisted of ‘customers service quality’ and ‘physical distribution service quality’ (Mentzer *et al.*, 1989). From the perspective of marketing, the marketing customer service component proposed by Mentzer *et al.* (1989) suggested that understanding the perceptions of physical distribution service from a customer’s point of view was an essential input in marketing management decisions.

Thus, Parasuraman *et al.* (1985; 1988; 1991) used qualitative (interview) and quantitative (survey) method in developing and refining their five-dimensional SERVQUAL scale (tangible, reliability, responsiveness, assurance, empathy) among retail consumers of appliance repair/maintenance, retail banking, long-distance telephone, securities brokerage, and credit card services. Bienstock *et al.* (1997) further initiate an integration of the logistics and marketing service quality research streams. This is due to the efforts to develop a scale that could be validate and reliable for measuring physical distribution service quality. They examined the marketing service quality measurement literature, particularly the development of SERVQUAL and subsequent attempts at replication of SERVQUAL’s dimensions in industrial service contexts.

## 2.4.2 SERVQUAL model

SERVQUAL by Parasuraman *et al.* (1985, 1988) defined service quality through the gap between customers' perception and expectation of company's service quality performance. For the conclusion, a service quality was built from expected and desired quality (Baki *et al.*, 2009).

Service quality is a construct that is similar to an attitude and related, but not equivalent to customer satisfaction. These dimensions of service quality were not weighted in terms of relative importance that the customers of the services firms attach to them. Thus, the new equation below proposed by Zeithaml *et al.* (1990) represents the the weighted form of the measurement of service quality using the SERVQUAL scale (Hemmasi *et al.*, 2010).

$$\text{Service Quality} = (\text{Perceptions} - \text{Expectations}) * \text{Importance}$$

Parasuraman *et al.* (1985) first came out with ten determinant of service process quality (Technopreneurship, 2007). The ten determinants are shown in table 2.1.

Table 2.1: The definitions of ten determinants of service quality (Parasuraman *et al.*, 1985; Technopreneurship, 2007)

Determinants	Definitions
Reliability	It involves consistency of performance and dependability.
Responsiveness	It concerns the willingness or readiness of employees to provide service.
Competence	It means possession of the required skills and knowledge to perform the service.
Access	It involves approachability and ease of contact.
Courtesy	It involves politeness, respect, consideration, and friendliness of contact personnel (including receptionists, telephone operators, etc.).
Communication	It means keeping customers informed in language they can understand and listening to them. It may mean that the company has to adjust its language for different consumers—increasing the level of sophistication with a well-educated customer and speaking simply and plainly with a novice.
Credibility	It involves trustworthiness, believability, honesty. It involves having the customer's best interests at heart.
Security	It is the freedom from danger, risk, or doubt.
Understanding/Knowing the Customer	It involves making the effort to understand the customer's needs.
Tangibles	It includes the physical evidence of the service.

However, Parasuraman *et al.*, (1988) then discovered that there are certain overlaps among the determinants and they shortened the list into only five dimensions. They also concluded that there are five essential gaps that leads to the development of the model. They are, 1) the gap between customer expectations and management perceptions of those expectations will have an impact on the customer's evaluation of service quality, 2) the gap between management perceptions of customer expectations and the firms's service quality specifications will affect service quality from the customer's viewpoint, 3) the gap between service quality specifications and actual service delivery will affect service quality from the customer's standpoint, 4) the gap between actual service delivery and external communications about the service wil affect service quality from a customer's standpoint, and last but not least 5) the quality that a customer perceives in a service is a function of the magnitude and direction of the gap between expected service and perceived service.

$$\text{Gap5} = f(\text{Gap1}, \text{Gap2}, \text{Gap3}, \text{Gap4})$$

Table 2.2 shows the five crucial dimensions that leads to model of service quality developed and concluded by Parasuraman *et al* (1988) and been used by other researchers (Munusamy *et al.*, 2010; Banomyong *et al.*, 2011; and Ooi *et al.*, 2011)

Table 2.2: Definitions of SERVQUAL model's dimensions.  
(Banomyong *et al.*, 2011; Munusamy *et al.*, 2010)

Dimensions	Definitions
Tangible	Appearance of physical facilities, equipment, communication materials and personnel.
Reliability	The ability of a service provider to perform the promised service dependably and accurately.
Responsiveness	The willingness to help customers and provide prompt service.
Assurance	The knowledge and courtesy of service providers and their ability to convey trust and confidence.
Empathy	Caring and individualised attention that the service provider provides to each customer.

Figure 2.1 explains the structure of SERVQUAL model by Parasuraman *et al.* (1988), and the added dimension according to Banomyong *et al.*(2011).

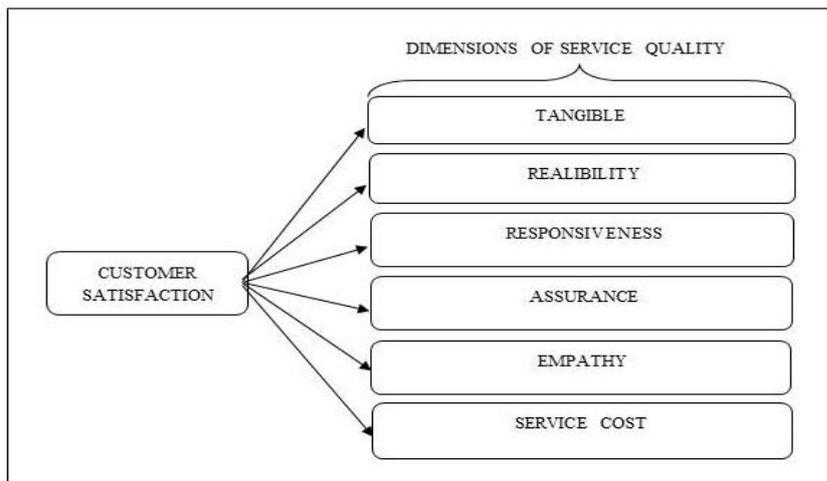


Figure 2.1: Dimensions of service quality from Parasuraman *et al.* (1988) and used and modified by Banomyong dan Supatn, 2011.

Based from Parasuraman *et al.* (1988) SERVQUAL model, many researchers used the model and modified accordingly to their research. There are some modification to the model regarding different field of study. For logistics itself, research by Banomyong *et al.* (2011) is the most accurate modified SERVQUAL model to be used. Below is the explanation of each dimensions according to Parasuraman *et al.* (1988) and other researchers especially by Banomyong *et al.* (2011).

Each service quality dimensions’ variables are driven from past researches. Table 2.3 shows the frequencies of each variable.

Table 2.3: Frequency of each variable for service quality’s dimensions.

DIMENSION	AUTHORS	FREQUENCY
TANGIBLE		
It has information technology (IT) facilities.	<ul style="list-style-type: none"> <li>• Zhang, Yue and Wang(2006)</li> <li>• Baki, Basfirinci, Cilinger and AR Murat(2009)</li> <li>• Liu, Grant, McKinnon and Feng (2010)</li> <li>• Banomyong and Supatn(2011)</li> </ul>	4
Modern and attractive physical facilities.	<ul style="list-style-type: none"> <li>• Zhang, Yue and Wang(2006)</li> <li>• Baki, Basfirinci, Cilinger and AR Murat(2009)</li> <li>• Banomyong and Supatn (2011)</li> </ul>	3

<p><b>RELIABILITY</b></p> <p>Precisely stored record of the products.</p> <p>Transaction of the item is following schedule and as time promised.</p> <p>Consistently keeping up the same level of service all the time.</p>	<ul style="list-style-type: none"> <li>• Zhang, Yue and Wang(2006)</li> <li>• Baki, Basfirinci, Cilinger and AR Murat(2009)</li> <li>• Banomyong and Supatn (2011)</li> </ul> <ul style="list-style-type: none"> <li>• Baki, Basfirinci, Cilinger and AR Murat (2009)</li> <li>• Liu, Grant, McKinnon and Feng (2010)</li> <li>• Banomyong and Supatn (2011)</li> </ul> <ul style="list-style-type: none"> <li>• Banomyong and Supatn (2011)</li> </ul>	<p>3</p> <p>3</p> <p>1</p>
<p><b>RESPONSIVENESS</b></p> <p>Prepare an effective office space for better and friendly user.</p> <p>Has broad branches.</p> <p>Sufficient staffs for efficient on time services.</p> <p>Willingness and commitment of their staffs to help.</p> <p>Provide fast services to customers' needs.</p> <p>Staffs who took care of customers' welfare.</p>	<ul style="list-style-type: none"> <li>• Zhang, Yue and Wang (2006)</li> <li>• Baki, Basfirinci, Cilinger and AR Murat (2009)</li> </ul> <ul style="list-style-type: none"> <li>• Baki, Basfirinci, Cilinger and AR Murat (2009)</li> <li>• Banomyong and Supatn (2011)</li> </ul> <ul style="list-style-type: none"> <li>• Baki, Basfirinci, Cilinger and AR Murat (2009)</li> </ul> <ul style="list-style-type: none"> <li>• Rauyrueen and Miller (2007)</li> <li>• Baki, Basfirinci, Cilinger and AR Murat (2009)</li> <li>• Banomyong and Supatn (2011)</li> </ul> <ul style="list-style-type: none"> <li>• Baki, Basfirinci, Cilinger and AR Murat (2009)</li> <li>• Liu, Grant, McKinnon and Feng (2010)</li> <li>• Banomyong and Supatn (2011)</li> </ul> <ul style="list-style-type: none"> <li>• Baki, Basfirinci, Cilinger and AR Murat (2009)</li> <li>• Liu, Grant, McKinnon and Feng (2010)</li> <li>• Banomyong and Supatn (2011)</li> </ul>	<p>2</p> <p>2</p> <p>1</p> <p>3</p> <p>3</p> <p>3</p>
<p><b>ASSURANCE</b></p> <p>Tracking items' location through the internet.</p> <p>Provide sufficient information to customers (eg: items' location, time needed for delivery, etc).</p>	<ul style="list-style-type: none"> <li>• Zhang, Yue and Wang (2006)</li> <li>• Baki, Basfirinci, Cilinger and AR Murat (2009)</li> <li>• Banomyong and Supatn (2011)</li> </ul> <ul style="list-style-type: none"> <li>• Zhang, Yue and Wang (2006)</li> <li>• Baki, Basfirinci, Cilinger and AR Murat (2009)</li> </ul>	<p>3</p> <p>2</p>

Items free from any damages	<ul style="list-style-type: none"> <li>• Zhang, Yue and Wang (2006)</li> <li>• Baki, Basfirinci, Cilinger and AR Murat (2009)</li> <li>• Banomyong and Supatn (2011)</li> </ul>	3
Safety and assurance of the items (guarantee and customers' loyalty to keep on using the same service)	<ul style="list-style-type: none"> <li>• Zhang, Yue and Wang (2006)</li> <li>• Rauyruen and Miller (2007)</li> <li>• Baki, Basfirinci, Cilinger and AR Murat (2009)</li> <li>• Liu, Grant, McKinnon and Feng (2010)</li> <li>• Banomyong and Supatn (2011)</li> </ul>	5
<b>EMPATHY</b>		
Keep customers' information confidential.	<ul style="list-style-type: none"> <li>• Banomyong and Supatn (2011)</li> </ul>	1
Make customer satisfy by solving complaints and following their desires.	<ul style="list-style-type: none"> <li>• Rauyruen and Miller (2007)</li> <li>• Baki, Basfirinci, Cilinger and AR Murat (2009)</li> <li>• Banomyong and Supatn (2011)</li> </ul>	3
Consider the feeling in customers' service acceptance specifically to what they desired.	<ul style="list-style-type: none"> <li>• Zhang, Yue and Wang (2006)</li> <li>• Rauyruen and Miller (2007)</li> <li>• Baki, Basfirinci, Cilinger and AR Murat (2009)</li> <li>• Liu, Grant, McKinnon and Feng (2010)</li> <li>• Banomyong and Supatn (2011)</li> </ul>	5
<b>SERVICE COST</b>		
Affordable and reasonable price	<ul style="list-style-type: none"> <li>• Zhang, Yue and Wang (2006)</li> <li>• Banomyong and Supatn (2011)</li> </ul>	2
Different promotions (coupons, discounts).	<ul style="list-style-type: none"> <li>• Baki, Basfirinci, Cilinger and AR Murat (2009)</li> <li>• Liu, Grant, McKinnon and Feng (2010)</li> <li>• Banomyong and Supatn (2011)</li> </ul>	3
Payment facilities	<ul style="list-style-type: none"> <li>• Banomyong and Supatn (2011)</li> </ul>	1

From table 2.3, the variables for each dimension are simplified as shown in Figure 2.2 on the next page.

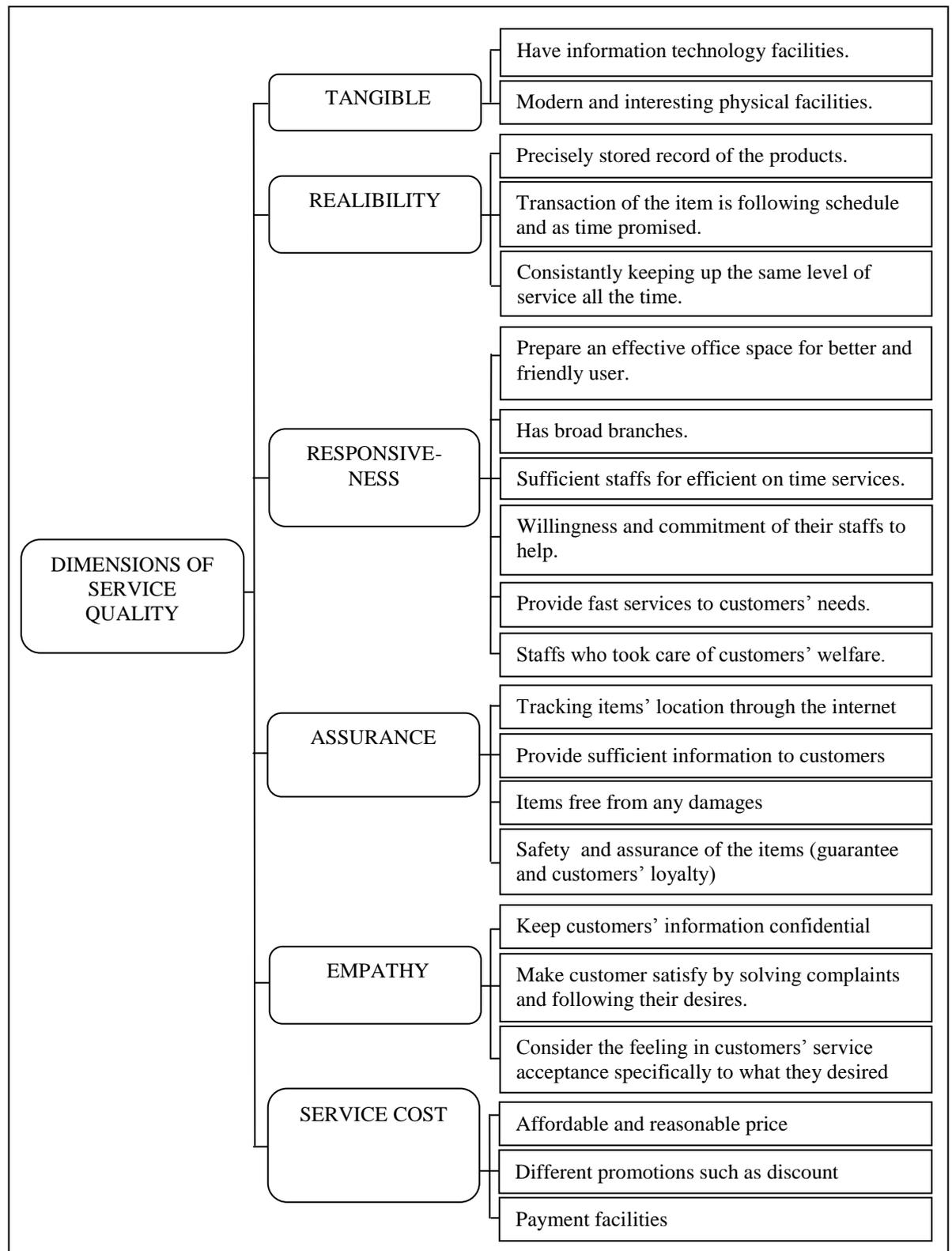


Figure 2.2: Parasuraman *et al.* (1988), modified accordingly to fit for the research. These dimensions of service quality also been used and added up by Banomyong *et al.* (2011).

## 2.5 Theory of customer behaviour

In the marketing concepts, there are 8 P's of services marketing which includes the original terminology; product elements, place and time, price and other user outlays, and promotion and education; and four elements associated with service delivery which includes physical environment, process, people, and productivity and quality (Lovelock *et al.*, 2007). However, according to them, customer will be actively involved in whole process phase.

Customer satisfaction is the individual consumers' perception towards products or services' performance in relation to his or her expectation (Schiffman *et al.*, 2010). Therefore, with respect to satisfy their customers, the level of customers' satisfaction linked with customer behaviour according to the types of the customers (Schiffman *et al.*, 2010; Schiffman *et al.*, 2007).

### 2.5.1 Customer satisfaction

Customers' satisfaction is very subjective. The theory of customer behaviour that leads to customer satisfaction is discussed broadly by Lovelock *et al.* (2007). They stated that without understanding their customer behaviour, no organization that can create and deliver any services that will result in satisfied customers. According to Hansemark *et al.* (2004), they discussed customer satisfaction from three perspectives, and they are, the definition of the concept, how to recognize when a customer is satisfied, and how to enhance satisfaction. In conclusion and addition of their statement, the strongest connection between retention and satisfaction strategies turned out to be in terms of relationship and confidence.

Customers' satisfaction is very subjective that no researchers in this time being who can precisely described the desire and need of the customers towards a service because service itself is intangible and each customers' experiences differ from others (Baki *et al.*, 2009). A satisfied customer does not only express of a happy customer, it is more complex than that (Munusamy *et al.*, 2010). Furthermore, they said that customer satisfaction is a term that explains the measurement the kind

of products or services provided by the company to meet its customers' expectations. According to them, to some companies, they might see this as their company's key performance indicator (KPI). According to Feçiková (2004), customer who is satisfied will come back again as if being helped and dissatisfied customer will have the tendency of going somewhere else next time.

Customer satisfaction can be observed or measured by looking at the loyalty of the customers to keep on and repeatedly using the same service, and in addition, acknowledge the product or the service to their friends (Feçiková, 2004; Huang, 2008). Furthermore, according to Feçiková (2004), loyalty of a customer is a function of satisfaction; and loyalty of customers defined when they spend more on your services, they feel your services are worth paying and they will encourage others such as their family and friends to use your service too. According to Woisetschläger (2011), interactions between customers may build social switching barriers which they will share their service experiences and it is likely to form a collective basis for conversation among the customers. In other word, it is called as word-of mouth.

## **2.6 Relationship between service quality and customers' satisfaction**

Munusamy *et al.*(2010), stated that customer satisfaction and service quality are related to each other. Their theory would be the higher the quality of service, the higher the satisfaction of the customers. Figure 2.3 shows the relationships of service quality's dimensions towards customers' satisfaction.

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